1001 Pennsylvania Avenue, N.W., Washington, DC 20004-2595 ▪ p202 624-2500 ▪ f202 628-5116

crowell moring

April 13, 2015

Public Utilities Commission of Ohio
Docketing Division
180 East Broad Street
Columbus Ohio 43215-3793

Re: Application of Siemens Industry, Inc. for a Certificate to Provide Competitive Retail Natural Gas Services

Enclosed please find the application of Siemens Industry, Inc. for a certificate to provide Competitive Retail Natural Gas Services in Ohio as a retail natural gas broker.

Thank you for your consideration. Please contact the undersigned if you have any questions.

Respectfully,

Diana Jeschke
Crowell & Moring, LLP
1001 Pennsylvania Avenue NW
Washington, DC 20004
202-624-2619
djeschke@crowell.com
PHV – 6127-2015

Ohio | Public Utilities Commission

PUCO USE ONLY – Version 1.07		
Date Received	Case Number	Certification Number
	- GA-AGG	

CERTIFICATION APPLICATION
COMPETITIVE RETAIL NATURAL GAS BROKERS /AGGREGATORS

Please **type or print** all required information. Identify all attachments with an exhibit label and title (***Example: Exhibit A-16 - Company History***). All attachments should bear the legal name of the Applicant. Applicants should file completed applications and all related correspondence with the Public Utilities Commission of Ohio, Docketing Division, 180 East Broad Street, Columbus, Ohio 43215-3793.

This PDF form is designed so that you may directly input information onto the form. You may also download the form by saving it to your local disk.

SECTION A - APPLICANT INFORMATION AND SERVICES

A-1 Applicant intends to be certified as: (check all that apply)

☐ **Retail Natural Gas Aggregator** ☑ **Retail Natural Gas Broker**

A-2 Applicant information:

Legal Name: Siemens Industry, Inc.

Address: 1000 Deerfield Parkway, Buffalo Grove, IL 60089

Telephone No.: (800) 758-5196 Web site Address: www.siemens.com

A-3 Applicant information under which applicant will do business in Ohio:

Name: Siemens Industry, Inc.

Address: 1000 Deerfield Parkway, Buffalo Grove, IL 60089

Web site Address: www.siemens.com Telephone No.: (800) 758-5196

A-4 List all names under which the applicant does business in North America:

Siemens Industry, Inc.

A-5 Contact person for regulatory or emergency matters:

Name: Greg Simmons Title: Director, C&I Sales

Business Address: 4401 Fair Lakes Court, Fairfax, VA 22033

Telephone No.: (703) 539-1129 Fax No.: (844) 806-8411 Email Address: greg.simmons@siemens.com

180 East Broad Street • Columbus, OH 43215-3793 • (614) 466-3016 • www.PUCO.ohio.gov
The Public Utilities Commission of Ohio is an Equal Opportunity Employer and Service Provider

A-6 Contact person for Commission Staff use in investigating customer complaints:

Name Greg Simmons Title Director, C&I Sales

Business address 4401 Fair Lakes Court, Fairfax, VA 22033

Telephone No. (703) 539-1129 Fax No. (844) 806-8411 Email Address greg.simmons@siemens.com

A-7 Applicant's address and toll-free number for customer service and complaints

Customer service address 220 Stoneridge Drive, Columbia, SC 29210

Toll-Free Telephone No. (800) 758-5196 Fax No. (855) 612-1119 Email Address justin.barstow@siemens.com

A-8 Provide "Proof of an Ohio Office and Employee," in accordance with Section 4929.22 of the Ohio Revised Code, by listing name, Ohio office address, telephone number, and Web site address of the designated Ohio Employee

Name Dee Iverson Title Office Supervisor

Business address 5350 Transportation Blvd., Suite 9, Garfield Heights, OH 44125

Telephone No. 513-742-5590 Fax No. 866-741-5193 Email Address deloris.iverson@siemens.com

A-9 Applicant's federal employer identification number 13-2762488

A-10 Applicant's form of ownership: (Check one)

- ☐ **Sole Proprietorship**
- ☐ **Partnership**
- ☐ **Limited Liability Partnership (LLP)**
- ☐ **Limited Liability Company (LLC)**
- ☑ **Corporation**
- ☐ **Other**

A-11 (Check all that apply) Identify each natural gas company service area in which the applicant is currently providing service or intends to provide service, including identification of each customer class that the applicant is currently serving or intends to serve, for example: *residential, small commercial, and/or large commercial/industrial (mercantile) customers.* (A mercantile customer, as defined in Section 4929.01(L)(1) of the Ohio Revised Code, means a customer that consumes, other than for residential use, more than 500,000 cubic feet of natural gas per year at a single location within the state or consumes natural gas, other than for residential use, as part of an undertaking having more than three locations within or outside of this state. In accordance with Section 4929.01(L)(2) of the Ohio Revised Code, "Mercantile customer" excludes a not-for-profit customer that consumes, other than for residential use, more than 500,000 cubic feet of natural gas per year at a single location within this state or consumes natural gas, other than for residential use, as part of an undertaking having more than three locations within or outside this state that has filed the necessary declaration with the Public Utilities Commission.)

✓ Columbia Gas of Ohio	☐ Residential	✓ Small Commercial	✓ Large Commercial / Industrial
✓ Dominion East Ohio	☐ Residential	✓ Small Commercial	✓ Large Commercial / Industrial
✓ Duke Energy Ohio	☐ Residential	✓ Small Commercial	✓ Large Commercial / Industrial
✓ Vectren Energy Delivery of Ohio	☐ Residential	✓ Small Commercial	✓ Large Commercial / Industrial

A-12 If applicant or an affiliated interest previously participated in any of Ohio's Natural Gas Choice Programs, for each service area and customer class, provide approximate start date(s) and/or end date(s) that the applicant began delivering and/or ended services.

☐ Columbia Gas of Ohio

☐	Residential	Beginning Date of Service	End Date	
☐	Small Commercial	Beginning Date of Service	End Date	
☐	Large Commercial	Beginning Date of Service	End Date	
☐	Industrial	Beginning Date of Service	End Date	

☐ Dominion East Ohio

☐	Residential	Beginning Date of Service	End Date	
☐	Small Commercial	Beginning Date of Service	End Date	
☐	Large Commercial	Beginning Date of Service	End Date	
☐	Industrial	Beginning Date of Service	End Date	

☐ Duke Energy Ohio

☐	Residential	Beginning Date of Service	End Date	
☐	Small Commercial	Beginning Date of Service	End Date	
☐	Large Commercial	Beginning Date of Service	End Date	
☐	Industrial	Beginning Date of Service	End Date	

☐ Vectren Energy Delivery of Ohio

☐	Residential	Beginning Date of Service	End Date	
☐	Small Commercial	Beginning Date of Service	End Date	
☐	Large Commercial	Beginning Date of Service	End Date	
☐	Industrial	Beginning Date of Service	End Date	

A-13 If not currently participating in any of Ohio's four Natural Gas Choice Programs, provide the approximate start date that the applicant proposes to begin delivering services:

✓	Columbia Gas of Ohio	Intended Start Date	3/1/2015
✓	Dominion East Ohio	Intended Start Date	3/1/2015
✓	Duke Energy Ohio	Intended Start Date	3/1/2015
✓	Vectren Energy Delivery of Ohio	Intended Start Date	3/1/2015

PROVIDE THE FOLLOWING AS SEPARATE ATTACHMENTS AND LABEL AS INDICATED.

A-14 **Exhibit A-14 "Principal Officers, Directors & Partners,"** provide the names, titles, addresses and telephone numbers of the applicant's principal officers, directors, partners, or other similar officials.

A-15 **Exhibit A-15 "Corporate Structure,"** provide a description of the applicant's corporate structure, including a graphical depiction of such structure, and a list of all affiliate and subsidiary companies that supply retail or wholesale natural gas or electricity to customers in North America.

A-16 **Exhibit A-16 "Company History,"** provide a concise description of the applicant's company history and principal business interests.

A-17 **Exhibit A-17 "Articles of Incorporation and Bylaws,"** if applicable, provide the articles of incorporation filed with the state or jurisdiction in which the applicant is incorporated and any amendments thereto.

A-18 **Exhibit A-18 "Secretary of State,"** provide evidence that the applicant is currently registered with the Ohio Secretary of the State.

SECTION B - APPLICANT MANAGERIAL CAPABILITY AND EXPERIENCE

PROVIDE THE FOLLOWING AS SEPARATE ATTACHMENTS AND LABEL AS INDICATED

B-1 **Exhibit B-1 "Jurisdictions of Operation,"** provide a current list of all jurisdictions in which the applicant or any affiliated interest of the applicant is, at the date of filing the application, certified, licensed, registered, or otherwise authorized to provide retail natural gas service, or retail/wholesale electric services.

B-2 **Exhibit B-2 "Experience & Plans,"** provide a current description of the applicant's experience and plan for contracting with customers, providing contracted services, providing billing statements, and responding to customer inquiries and complaints in accordance with Commission rules adopted pursuant to Section 4929.22 of the Revised Code and contained in Chapter 4901:1-29 of the Ohio Administrative Code.

B-3 **Exhibit B-3 "Summary of Experience,"** provide a concise and current summary of the applicant's experience in providing the service(s) for which it is seeking to be certified to provide (e.g., number and types of customers served, utility service areas, volume of gas supplied, etc.).

B-4 **Exhibit B-4 "Disclosure of Liabilities and Investigations,"** provide a description of all existing, pending or past rulings, judgments, contingent liabilities, revocations of authority, regulatory investigations, or any other matter that could adversely impact the applicant's financial or operational

status or ability to provide the services it is seeking to be certified to provide.

B-5 **Exhibit B-5 "Disclosure of Consumer Protection Violations,"** disclose whether the applicant, affiliate, predecessor of the applicant, or any principal officer of the applicant has been convicted or held liable for fraud or for violation of any consumer protection or antitrust laws within the past five years.

☑ **No** ☐ **Yes**

If Yes, provide a separate attachment labeled as Exhibit B-5 "Disclosure of Consumer Protection Violations," detailing such violation(s) and providing all relevant documents.

B-6 **Exhibit B-6 "Disclosure of Certification Denial, Curtailment, Suspension, or Revocation,"** disclose whether the applicant or a predecessor of the applicant has had any certification, license, or application to provide retail natural gas or retail/wholesale electric service denied, curtailed, suspended, or revoked, or whether the applicant or predecessor has been terminated from any of Ohio's Natural Gas Choice programs, or been in default for failure to deliver natural gas.

☑ **No** ☐ **Yes**

If Yes, provide a separate attachment, labeled as Exhibit B-6 "Disclosure of Certification Denial, Curtailment, Suspension, or Revocation," detailing such action(s) and providing all relevant documents.

SECTION C - APPLICANT FINANCIAL CAPABILITY AND EXPERIENCE

PROVIDE THE FOLLOWING AS SEPARATE ATTACHMENTS AND LABEL AS INDICATED

C-1 **Exhibit C-1 "Annual Reports,"** provide the two most recent Annual Reports to Shareholders. If applicant does not have annual reports, the applicant should provide similar information, labeled as Exhibit C-1, or indicate that Exhibit C-1 is not applicable and why.

C-2 **Exhibit C-2 "SEC Filings,"** provide the most recent 10-K/8-K Filings with the SEC. If applicant does not have such filings, it may submit those of its parent company. If the applicant does not have such filings, then the applicant may indicate in Exhibit C-2 whether the applicant is not required to file with the SEC and why.

C-3 **Exhibit C-3 "Financial Statements,"** provide copies of the applicant's two most recent years of audited financial statements (balance sheet, income statement, and cash flow statement). If audited financial statements are not available, provide officer-certified financial statements. If the applicant has not been in business long enough to satisfy this requirement, it shall file audited or officer-certified financial statements covering the life of the business.

C-4 **Exhibit C-4 "Financial Arrangements,"** provide copies of the applicant's current financial arrangements to conduct competitive retail natural gas service (CRNGS) as a business activity (e.g., guarantees, bank commitments, contractual arrangements, credit agreements, etc.)

C-5 **Exhibit C-5 "Forecasted Financial Statements,"** provide two years of forecasted financial statements (balance sheet, income statement, and cash flow statement) for the applicant's CRNGS operation, along with a list of assumptions, and the name, address, email address, and telephone number of the preparer.

C-6 **Exhibit C-6 "Credit Rating,"** provide a statement disclosing the applicant's current credit rating as reported by two of the following organizations: Duff & Phelps, Dun and Bradstreet Information Services, Fitch IBCA, Moody's Investors Service, Standard & Poors, or a similar organization. In instances where an applicant does not have its own credit ratings, it may substitute the credit ratings of a parent or affiliate organization, provided the applicant submits a statement signed by a principal officer of the applicant's parent or affiliate organization that guarantees the obligations of the applicant.

C-7 **Exhibit C-7 "Credit Report,"** provide a copy of the applicant's current credit report from Experion, Dun and Bradstreet, or a similar organization.

C-8 **Exhibit C-8 "Bankruptcy Information,"** provide a list and description of any reorganizations, protection from creditors, or any other form of bankruptcy filings made by the applicant, a parent or affiliate organization that guarantees the obligations of the applicant or any officer of the applicant in the current year or since applicant last filed for certification.

C-9 **Exhibit C-9 "Merger Information,"** provide a statement describing any dissolution or merger or acquisition of the applicant since applicant last filed for certification.

SECTION D – APPLICANT TECHNICAL CAPABILITY

PROVIDE THE FOLLOWING AS SEPARATE ATTACHMENTS AND LABEL AS INDICATED.

D-1 **Exhibit D-1 "Operations,"** provide a current written description of the operational nature of the applicant's business functions.

D-2 **Exhibit D-2 "Operations Expertise,"** given the operational nature of the applicant's business, provide evidence of the applicant's current experience and technical expertise in performing such operations.

D-3 **Exhibit D-3 "Key Technical Personnel,"** provide the names, titles, email addresses, telephone numbers, and background of key personnel involved in the operational aspects of the applicant's current business.

Applicant Signature and Title President SII Siemen Bldg Tech

Sworn and subscribed before me this 8 **day of** APRIL **Month** 2015 **Year**

Signature of official administering oath **Print Name and Title** Pauline A. Ciotola - Notary

Notary **My commission expires on** 03-22-16

PAULINE A CIOTOLA
OFFICIAL SEAL
Notary Public, State of Illinois
My Commission Expires
March 22, 2016

The Public Utilities Commission of Ohio

Competitive Retail Natural Gas Service
Affidavit Form
(Version 1.07)

In the Matter of the Application of	)	
Siemens Industry, Inc.	)	**Case No. - -GA-AGG**
for a Certificate or Renewal Certificate to Provide	)	
Competitive Retail Natural Gas Service in Ohio.	)	

County of
State of

Kyle Smith [Affiant], being duly sworn/affirmed, hereby states that:

(1) The information provided within the certification or certification renewal application and supporting information is complete, true, and accurate to the best knowledge of affiant.

(2) The applicant will timely file an annual report of its intrastate gross receipts and sales of hundred cubic feet of natural gas pursuant to Sections 4905.10(A), 4911.18(A), and 4929.23(B), Ohio Revised Code.

(3) The applicant will timely pay any assessment made pursuant to Section 4905.10 or Section 4911.18(A), Ohio Revised Code.

(4) Applicant will comply with all applicable rules and orders adopted by the Public Utilities Commission of Ohio pursuant to Title 49, Ohio Revised Code.

(5) Applicant will cooperate with the Public Utilities Commission of Ohio and its staff in the investigation of any consumer complaint regarding any service offered or provided by the applicant.

(6) Applicant will comply with Section 4929.21, Ohio Revised Code, regarding consent to the jurisdiction of the Ohio courts and the service of process.

(7) Applicant will inform the Public Utilities Commission of Ohio of any material change to the information supplied in the certification or certification renewal application within 30 days of such material change, including any change in contact person for regulatory or emergency purposes or contact person for Staff use in investigating customer complaints.

(8) Affiant further sayeth naught.

Affiant Signature & Title Kyle Smith Managing Director, Portfolio Enterprise Services

Sworn and subscribed before me this 24th **day of** March **Month** 2015 **Year**

Deborah Marie Stephenson DEBORAH MARIE STEPHENSON ACCOUNTANT
Signature of Official Administering Oath **Print Name and Title**

DEBORAH MARIE STEPHENSON NOTARY PUBLIC REG # 7130621 MY COMMISSION EXPIRES 12/31/2015 COMMONWEALTH OF VIRGINIA

My commission expires on 12/31/15

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DELEGATION OF SIGNATURE AUTHORITY
SIEMENS INDUSTRY, INC.

I, **Dave Hopping,** on behalf of **Siemens Industry, Inc.,** ("SII"), by virtue of the authority vested in me as **President and Chief Executive Officer** to sign or countersign and otherwise execute in the name, or on behalf of SII bids, projects, contracts, agreements and any certificates, affidavits or ancillary documents in connection therewith for and on behalf of SII, do hereby delegate to and acknowledge that the following person may exercise such authority for and on my behalf in the following manner:

To sign affidavits, verifications and other similar documents ("Documents") on behalf of SII in connection with applications to state authorities for authorization to provide certain electricity and/or natural gas related services. This authorization is effective for **Kyle V. Smith's** execution of such Documents and ratifies the same.

Name:

Kyle V. Smith
Managing Director, Portfolio Enterprise Services
Siemens Industry, Inc.
Building Technologies Division
Building Performance & Sustainability

I further designate and acknowledge that the signature of the person delegated above, is binding upon SII in the above identified circumstances and shall have the same force and effect as would my signature.

Dated as of: **March 23, 2015**

Signature
Dave Hopping
President and Chief Executive Officer
Siemens Industry, Inc.,

Exhibit A-14 Principal Officers, Directors & Partners

QUESTION: Provide the names, titles, addresses and telephone numbers of the applicant's principal officers, directors, partners, or other similar officials.

SIEMENS INDUSTRY INC. RESPONSE:

- Axel Meier, Director, 1000 Deerfield Parkway, Buffalo Grove, IL 60089
- Lisa Greene, Secretary and Associate General Counsel, 3333 Old Milton Parkway, Alpharetta, GA 30005
- David Hopping, Chief Executive Officer, 1000 Deerfield Parkway, Buffalo Grove, IL 60089
- Klaus Stegemann, Chief Financial Officer, 1000 Deerfield Parkway, Buffalo Grove, IL 60089

Exhibit A-15 Corporate Structure

QUESTION: provide a description of the applicant's corporate structure, including a graphical depiction of such structure, and a list of all affiliate and subsidiary companies that supply retail or wholesale electricity or natural gas to customers and companies that aggregate customers in North America.

SIEMENS INDUSTRY INC. RESPONSE:

Siemens Industry, Inc. is 100% owned by Siemens Corporation. Siemens Corporation is 100 % owned by Siemens USA Holdings, Inc. Siemens USA Holdings, Inc. is 100% owned by Siemens Beteiligungen USA GmbH. Siemens Beteiligungen USA GmbH is 100 % owned by Siemens Beteiligungen Inland GmbH. Siemens Beteiligungen Inland GmbH is 100 % owned by Siemens Aktiengesellschaft. Siemens Aktiengesellschaft is the Ultimate Parent.

Applicant does not have affiliate or subsidiary companies that supply retail or wholesale electricity or natural gas to customers and companies that aggregate customers in North America.

Exhibit A-16 Company History

QUESTION: provide a concise description of the applicant's company history and principal business interests.

SIEMENS INDUSTRY INC. RESPONSE:

Siemens Industry Inc. ("SII") caters to the needs of industrial and commercial business customers. Its divisions provide specialty engineering services and equipment for customers in the automotive, cement, chemical, food and beverage and mining industries among others. SII provides automation technology and products and services for drive train systems and related building technologies. Its services arm provides maintenance and repair functions, as well as planning and technical consulting and engineering support. SII is owned by Siemens Corporation whose ultimate indirect parent company is Siemens Aktiengesellschaft

Exhibit A-17 Articles of Incorporation and Bylaws

QUESTION: If applicable, provide the articles of incorporation filed with the state or jurisdiction in which the applicant is incorporated and any amendments thereto.

SIEMENS INDUSTRY INC. RESPONSE: Please see attached.

Delaware

The First State

I, JEFFREY W. BULLOCK, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE RESTATED CERTIFICATE OF "SIEMENS INDUSTRY, INC.", FILED IN THIS OFFICE ON THE TWENTY-FOURTH DAY OF MAY, A.D. 2012, AT 6:25 O'CLOCK P.M.

A FILED COPY OF THIS CERTIFICATE HAS BEEN FORWARDED TO THE NEW CASTLE COUNTY RECORDER OF DEEDS.

Jeffrey W. Bullock, Secretary of State

0786939 8100

AUTHENTICATION: 9608882

120633729

DATE: 05-31-12

You may verify this certificate online at corp.delaware.gov/authver.shtml

State of Delaware
Secretary of State
Division of Corporations
Delivered 06:51 PM 05/24/2012
FILED 06:25 PM 05/24/2012
SRV 120633729 - 0786939 FILE

AMENDED AND RESTATED CERTIFICATE OF INCORPORATION OF SIEMENS INDUSTRY, INC.

Siemens Industry, Inc., a corporation organized and existing under the laws of the State of Delaware, hereby certifies as follows:

1. The name of the corporation is "Siemens Industry, Inc." and the name under which the corporation was originally incorporated is "Amerogyr Inc.". The date of filing of its original Certificate of Incorporation with the Secretary of State was November 28, 1972.

2. This Amended and Restated Certificate of Incorporation further amends, restates and integrates the Certificate of Incorporation of this corporation by amending in its entirety the original Certificate of Incorporation as set forth below.

3. The text of the original Certificate of Incorporation as amended or supplemented heretofore is further amended hereby by striking out each of the Articles in its entirety and substituting in lieu of such Articles the following Articles to read as herein set forth in full:

FIRST: The name of the corporation is "Siemens Industry, Inc."

Siemens Aktiengesellschaft ("Siemens AG"), the ultimate parent of the corporation, has granted the corporation permission to use the "Siemens" name within the corporation's name. Upon written notice to the corporation, Siemens AG and its legal successor or authorized agents may revoke such permission at any time and for any reason or no reason. In addition, the corporation's right to use the name "Siemens" within its name shall immediately terminate without need for Siemens AG to provide written notice in the event that Siemens AG ceases to hold (directly or indirectly) more than fifty (50) percent of the issued and outstanding share capital and voting rights of the corporation. For purposes of the preceding sentence, Siemens AG shall be deemed to hold an indirect holding of more than fifty (50) percent if more than fifty (50) percent of the outstanding shares and voting rights are held at each separate holding level between Siemens AG and the corporation (including by one or more Siemens entities).

If the permission is revoked or otherwise terminated, the corporation and the shareholders shall take all appropriate actions to cause the name of the corporation to be changed within a period of ninety (90) days following such revocation or termination. No successor name of the corporation may contain either the "Siemens" name or a title that could be confused therewith or that is otherwise similar thereto or any reference suggesting that the corporation is associated with the Siemens group or its organization.

Neither the corporation nor any of its shareholders shall be entitled to any compensation in the event that the corporation's right to use the "Siemens" name is revoked or terminated.

SECOND: Its registered office in the state of Delaware is to be located at c/o The Corporation Trust Company, 1209 Orange Street, in the City of Wilmington, County of New Castle, Delaware 19801. The registered agent in charge thereof is The Corporation Trust Company.

THIRD: The purpose of the corporation is to engage in any lawful act or activity for which corporations may be organized under the General Corporation Law of the State of Delaware.

FOURTH: The total number of shares of stock that the corporation shall have authority to issue is 45,000 (Forty-Five Thousand) shares of common stock, all of which are at no par value.

FIFTH: No director of this corporation shall be personally liable to the corporation or its stockholders for any monetary damages for breaches of fiduciary duty as a director, provided that this provision shall not eliminate or limit the liability of a director to the extent that such liability is imposed: (i) for any breach of the director's duty of loyalty to the corporation or its stockholders; (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law (iii) under Section 174 or successor provisions of the General Corporation Law of the State of Delaware ("DGCL"); or (iv) for any transaction from which the director derived an improper personal benefit. Further, this provision shall not eliminate or limit the liability of a director for any act or omission if such elimination or limitation is prohibited by the DGCL. Any amendment to or repeal of this Article Fifth shall be prospective only and not apply to or have any effect on the liability or alleged liability of any director or reduce a director's right to indemnification hereunder for or with respect to any acts or omissions of such director occurring prior to such amendment or repeal. Notwithstanding the foregoing, if the DGCL is amended to authorize corporate action further eliminating or limiting the personal liability of directors, then the liability of a director of the corporation shall be eliminated or limited to the fullest extent permitted by the DGCL, as so amended.

4. This Amended and Restated Certificate of Incorporation was duly adopted by unanimous written consent of the sole stockholder in accordance with the applicable provisions of Section 228, 242 and 245 of the General Corporation Law of the State of Delaware.

5. This Amended and Restated Certificate of Incorporation shall be effective upon the date of filing.

IN WITNESS WHEREOF, Siemens Industry, Inc. has caused this Amended and Restated Certificate of Incorporation to be signed this 15 day of May, 2012.

SIEMENS INDUSTRY, INC.

By: _____
Name: Daryl D. Dulaney
Title: President and Chief Executive Officer

By: _____
Name: Daniel W. Hislip
Title: Vice President, General Counsel and Secretary

BYLAWS
OF
SIEMENS INDUSTRY, INC.

ARTICLE I

Offices

Section 1.01 Registered Office. The registered office of the Corporation shall be established and maintained at the office of The Corporation Trust Company, 1209 Orange Street, Wilmington, Delaware, 19801, and said corporation shall be the Registered Agent of this Corporation in charge thereof.

Section 1.02 Other Offices. The Corporation may have other offices, either within or without the State of Delaware, at such place or places as the Board of Directors may from time to time appoint or the business of the Corporation may require.

ARTICLE II

Meetings of Stockholders

Section 2.01 Annual Meetings. Unless directors are elected by written consent in lieu of an annual meeting, an annual meeting of stockholders shall be held for the election of directors and for such other business as may be stated in the notice of the meeting. Such meeting shall be held at such place, either within or without the State of Delaware, and at such time and date as the Board of Directors, by resolution, shall determine and as set forth in the notice of the meeting. At each annual meeting, the stockholders entitled to vote shall elect a Board of Directors, and they may transact such other corporate business as shall be stated in the notice of the meeting.

Section 2.02 Special Meetings. Meetings of stockholders for any purpose or purposes may be held at such time and place, within or without the State of Delaware, as shall be stated in the notice of the meeting. Special meetings of the stockholders may be called by the Chairman, the Senior Officer (as hereinafter defined) or the Secretary, or by resolution of the directors.

Section 2.03 Voting. Each stockholder entitled to vote in accordance with the terms of the Certificate of Incorporation and in accordance with the provisions of these Bylaws shall be entitled to one vote, in person or by proxy, for each share of stock entitled to vote held by such stockholder, but no proxy shall be voted after three years from its date unless such proxy provides for a longer period. Upon the demand of any stockholder, the vote for directors and the vote upon any question before the meeting shall be by written ballot. All elections for directors and all other questions shall be decided by majority vote except as otherwise provided by the Certificate of Incorporation or the laws of the State of Delaware.

A complete list of the stockholders entitled to vote at any meeting, arranged in alphabetical order, with the address of each, and the number of shares held by each, shall be open to examination by any stockholder, for any purpose germane to the meeting, during ordinary business hours for a period of at least ten days prior to the meeting at the principal business office of the Corporation. The list shall also be produced and kept at the time and place of the meeting during the whole time thereof, and may be inspected by any stockholder who is present.

Section 2.04 Quorum. Except as otherwise required by law or by the Certificate of Incorporation, the presence, in person or by proxy, of stockholders holding a majority of the stock of the Corporation entitled to vote shall constitute a quorum at all meetings of the stockholders. In case a quorum shall not be present at any meeting, a majority in interest of the stockholders entitled to vote thereat, present in person or by proxy, shall have power to adjourn the meeting from time to time, without notice other than announcement at the meeting, until the requisite amount of stock entitled to vote shall be present. At any such adjourned meeting at which the requisite amount of stock entitled to vote shall be represented, any business may be transacted which might have been transacted at the meeting as originally noticed; but only those stockholders entitled to vote at the meeting as originally noticed shall be entitled to vote at any adjournment or adjournments thereof. If the adjournment is for more than thirty days, or if after the adjournment a new record date is fixed for the adjourned meeting, a notice of the adjourned meeting shall be given to each stockholder of record entitled to vote at the meeting.

Section 2.05 Notice of Meetings. Written notice, stating the place, date and time of the meeting, and the general nature of the business to be considered, shall be given to each stockholder entitled to vote thereat at his or her address as it appears on the records of the Corporation, not less than ten nor more than sixty days before the date of the meeting. No business other than that stated in the notice shall be transacted at any meeting without the unanimous consent of all the stockholders entitled to vote thereat.

Section 2.06 Action Without Meeting. Except as otherwise provided by the Certificate of Incorporation, whenever the vote of stockholders at a meeting thereof is required or permitted to be taken in connection with any corporate action by any provisions of statute, the Certificate of Incorporation, or these Bylaws, the meeting and vote of stockholders may be dispensed with, if a consent in writing, setting forth the action taken, shall be signed by the holders of outstanding stock having not less than the minimum number of votes that would be necessary to authorize or take such action at a meeting at which all shares entitled to vote thereon were present and voted. Prompt notice of the taking of corporate action without a meeting by less than unanimous written consent shall be given to those stockholders who have not consented in writing.

ARTICLE III

Directors

Section 3.01 Number and Term. The number of directors which shall constitute the entire Board of Directors of this Corporation shall be not less than two; the exact number shall be determined by resolution of the directors or the stockholders. Unless directors are elected by written consent in lieu of an annual meeting, the Board of Directors shall be elected at each annual meeting of the stockholders. Each director shall hold office until his or her successor shall be elected and shall qualify or until such director's earlier resignation or removal. Directors need not be stockholders.

Section 3.02 Resignations. Any director or member of a committee may resign at any time. Such resignation shall be made in writing, and shall take effect at the time specified therein, and if no time be specified, at the time of its receipt by the Senior Officer or by the Secretary. The acceptance of a resignation shall not be necessary to make it effective.

Section 3.03 Vacancies. If the office of any director or member of a committee becomes vacant, for any reason, the remaining directors in office, though less than a quorum, by a majority vote, or a sole remaining director, may appoint any qualified person to fill such vacancy, who shall hold office for the unexpired term and until such director's successor shall be elected and shall qualify or until such director's earlier resignation or removal.

Section 3.04 Removal. Any director may be removed either for or without cause at any time by the affirmative vote of the holders of a majority of all the shares of stock outstanding and entitled to vote, at a special meeting of the stockholders called for the purpose, and the vacancies thus created may be filled at such meeting by the affirmative vote of a majority in interest of the stockholders entitled to vote.

Section 3.05 Increase of Number. The number of directors may be increased by the affirmative vote of a majority of the directors at any duly constituted Board Meeting or by the affirmative vote of a majority in interest of the stockholders at the Annual Meeting of Stockholders or at a Special Meeting of Stockholders called for that purpose, and by like vote the additional directors may be elected at such meetings to hold office until the election and qualification of their successors or until their earlier resignation or removal.

Section 3.06 Powers. The Board of Directors shall exercise all of the powers of the Corporation except such as are by law, the Certificate of Incorporation, or these Bylaws conferred upon or reserved to the stockholders.

Section 3.07 Committees. The Board of Directors may, by resolution passed by a majority of the whole Board, designate one or more committees, each committee to consist of two or more of the directors of the Corporation. The Board may designate one or more directors as alternate members of any committee, who may replace any absent or disqualified member at any meeting of the committee. In the absence or disqualification of any member of any such committee, the member or members thereof present

at any meeting and not disqualified from voting, whether or not such member or members constitute a quorum, may unanimously appoint another member of the Board of Directors to act at the meeting in the place of any such absent or disqualified member. Any such committee, to the extent provided in the resolution designating such committee, shall have and may exercise all of the powers of the Board of Directors in the management of the business and affairs of the Corporation; provided, however, that no such committee shall have power or authority in reference to amending the Certificate of Incorporation of the Corporation, adopting an agreement of merger or consolidation, recommending to the stockholders the sale, lease or exchange of all or substantially all of the Corporation's property and assets, recommending to the stockholders a dissolution of the Corporation or a revocation of a dissolution, or amending these Bylaws; and, unless the resolution expressly so provides, no such committee shall have the power or authority to declare a dividend or to authorize the issuance of stock. Such committee or committees shall have such name or names as may be determined from time to time by resolution adopted by the Board of Directors. Each committee shall keep regular minutes of its meetings and report the same to the Board of Directors when required.

Section 3.08 Meetings. Unless directors were elected by written consent in lieu of an annual meeting, the newly elected directors shall hold their first meeting for the purpose of organization and the transaction of business, if a quorum be present, immediately after the annual meeting of the stockholders; or the time and place of such meeting may be fixed by consent in writing of all the directors. This meeting (or Board action by consent in lieu of a meeting) shall be called the Annual Meeting of the Board. At each annual meeting, the Board shall elect a slate of officers, Board Committees, if any, and they may transact such other corporate business as shall be stated in the notice of the meeting. Regular meetings of the Board of Directors may be held without notice if the time and place of such meetings are fixed by the Board of Directors. Special Meetings of the Board of Directors may be called by the Chairman, the President, or the Secretary, or on the written request of any two directors on at least two days' notice to each director and shall be held at such place or places as may be determined by the directors, or as shall be stated in the call of the meeting.

Section 3.09 Quorum and Manner of Action. A majority of the directors shall constitute a quorum for the transaction of business. If at any meeting of the Board there shall be less than a quorum present, a majority of those present may adjourn the meeting from time to time until a quorum is obtained, and no further notice thereof need be given other than by announcement at the meeting which shall be so adjourned. Action by the Board shall be effective when taken by majority vote of those present at a meeting at which a quorum is present, unless otherwise required by law, by the Certificate of Incorporation, or by these Bylaws.

Section 3.10 Compensation. Directors shall not receive any stated salary for their services as directors or as members of committees, but by resolution of the Board a fixed fee and expenses of attendance may be allowed for attendance at each meeting. Nothing herein contained shall be construed to preclude any director from serving the Corporation in any other capacity, as an officer, agent or otherwise, and receiving compensation therefor.

Section 3.11 Attendance at Meetings by Electronic Means. Members of the Board of Directors or any committee thereof may participate in any regular or special meeting of the Board or such committee by means of conference telephone, videoconferencing or similar communications equipment which allows all persons participating in the meeting to hear each other at the same time. Participation by a director by such electronic means shall constitute presence in person at any such meeting of the Board or committee.

Section 3.12 Action Without Meeting. Any action required or permitted to be taken at any meeting of the Board of Directors, or of any committee thereof, may be taken without a meeting, if all members of the Board of Directors or such committee, as the case may be, consent thereto in writing, or by electronic transmission and the writing or writings or electronic transmission or transmissions are filed with the minutes of proceedings of the Board of Directors, or such committee.

ARTICLE IV

Officers

Section 4.01 Officers. The officers of the Corporation shall include the following: (a) one or more of the following positions: (1) a Chairman, (2) a Chief Executive Officer and (3) a President, (b) a Treasurer and/or a Chief Financial Officer, and (c) a Secretary, all of whom shall be elected by the Board of Directors and who shall hold office until their successors are elected and qualified or until their earlier resignation or removal. In addition, the Board of Directors may elect one or more Vice Presidents, a Controller, and such Assistant Secretaries, Assistant Treasurers and Assistant Controllers as they may deem proper. None of the officers of the Corporation other than the Chairman need be directors. More than one office may be held by the same person, except the offices of (i) Chief Executive Officer and/or President and (ii) Secretary.

Section 4.02 Resignation, Removal. Any officer may resign at any time. Such resignation shall be made in writing, and shall take effect at the time specified therein, and if no time be specified, at the time of its receipt by the Chairman, the Senior Officer or the Secretary. The acceptance of a resignation shall not be necessary to make it effective. Any officer may be removed, for or without cause, at any time, by the affirmative vote of a majority of the Board of Directors. Any vacancy occurring in any office shall be filled for the unexpired portion of the term by the Board of Directors.

Section 4.03 Chairman of the Board. The Chairman of the Board (the "Chairman"), if one shall be elected, shall preside, when present, at any meeting of (i) the Board of Directors or (ii) the stockholders. The Chairman shall act in a general advisory capacity to the Senior Officer, and, in the absence or disability of such Senior Officer, he or she may take upon the exercise of all of the powers and responsibilities of that officer. The Chairman shall have such further powers and duties as may be conferred upon him or her by the Board of Directors or contemplated by the Section of these Bylaws entitled "Vice Presidents".

Section 4.04 Chief Executive Officer. The Chief Executive Officer, if one shall be elected, shall be the senior officer of the Corporation ("Senior Officer") and shall, under the direction of the Board of Directors, have responsibility for the general direction of the business, policies and affairs of the Corporation. Without limiting the generality of the foregoing, the Chief Executive Officer shall, in the absence or disability of the Chairman of the Board, or if one shall not have been elected, preside at all meetings of the stockholders and the Board of Directors, and shall see that all orders and resolutions of the Board of Directors are carried into effect. In addition, subject to the Joint Representation requirement set forth in Section 4.15 of these Bylaws, the Chief Executive Officer shall have the power to sign all contracts, powers of attorney and other instruments on behalf of the Corporation and to execute bonds, mortgages and other contracts of the Corporation, except where required by law to be otherwise signed and executed and except where the signing and execution thereof shall be expressly and exclusively delegated by the Board of Directors to some other officer or officers of the Corporation.

Section 4.05 President. Subject to such supervisory powers, if any, as may be given by the Board of Directors to the Chairman or the Chief Executive Officer, the President, if one shall be elected (and in the absence of a Chief Executive Officer in office), shall be the Senior Officer and shall, subject to the control of the Board of Directors, have the general powers and duties of management usually vested in the office of president of a corporation and shall have such other powers and duties as may be prescribed by the Board of Directors or these Bylaws. In the absence or disability of the Chief Executive Officer, or if one shall not have been elected, the President shall perform all the duties of the Chief Executive Officer and when so acting shall have all the powers of, and be subject to all the restrictions upon, the Chief Executive Officer. In addition, subject to the Joint Representation requirement set forth in Section 4.15 of these Bylaws, the President shall have the power to sign all contracts, powers of attorney and other instruments on behalf of the Corporation and to execute bonds, mortgages and other contracts, except where required by law to be otherwise signed and executed and except where the signing and execution thereof shall be expressly and exclusively delegated by the Board of Directors to some other officer or officers of the Corporation.

Section 4.06 Chief Financial Officer. The Chief Financial Officer, if one shall be elected, shall have overall supervision of the financial operations of the Corporation subject to the control of the Board of Directors. The Chief Financial Officer shall have such other general powers and duties usually vested in the office of chief financial officer of a corporation and shall have such additional or modified powers and duties as may be prescribed by the Board of Directors or these Bylaws.

Section 4.07 Vice Presidents. Each Vice President (of any rank, e.g., Executive Vice President, Senior Vice President, Vice President, etc.), if any shall be elected or appointed, shall have such powers and responsibilities as may from time to time be prescribed in writing by the Board of Directors or by the Senior Officer. In the absence or disability of the Senior Officer and provided that the Chairman has not taken upon himself or herself the powers and responsibilities as interim Senior Officer (pursuant to Section 4.03 of these Bylaws), the duties of the Senior Officer shall be performed by, and his or her powers may be exercised by, such Vice President as shall be designated in writing by such Senior Officer or, failing such designation, the Chairman, if any, may appoint either himself or herself or another officer of the Corporation as the interim Senior Officer to exercise all powers and responsibilities of such position; subject in any case to review and superseding action by the Board of Directors.

Section 4.08 Secretary. The Secretary shall attend all meetings of the Board of Directors and the stockholders and shall record all votes and the minutes of all proceedings in a book to be kept for that purpose and shall, when requested, perform like duties for all committees of the Board of Directors. The Secretary shall attend to the giving of notice of all meetings of the stockholders and special meetings of the Board of Directors and committees thereof. The Secretary shall have custody of the corporate seal, if one exists, and shall have authority to affix the same to any instrument and, when so affixed, it shall be attested by his or her signature. The Secretary shall keep and account for all books, documents, papers and records of the Corporation, except those for which some other officer or agent is properly accountable, and shall have authority to execute certificates with respect to the contents thereof. The Secretary shall have authority to sign stock certificates, and shall generally perform all the duties appertaining to the office of secretary of a corporation. In addition, any Assistant Secretary may perform the duties of the Secretary.

Section 4.09 Treasurer. The Treasurer, if one shall be elected, shall have the care and custody of all the funds of the Corporation and shall deposit the same in such banks or other depositories as the Board of Directors, or any other officer or officers, or any officer and agent jointly, duly authorized by the Board of Directors, shall, from time to time, direct or approve. The Treasurer shall keep a full and accurate account of all moneys received and paid on account of the Corporation, and shall render a statement of his accounts whenever the Board of Directors shall require. The Treasurer shall perform all other necessary acts and duties in connection with the administration of the financial affairs of the Corporation, and shall generally perform all the duties usually appertaining to the office of treasurer of a corporation. When required by the Board of Directors, the Treasurer shall give bonds for the faithful discharge of his or her duties in such sums and with such sureties as the Board of Directors shall approve. In addition, any Assistant Treasurer may perform the duties of the Treasurer.

Section 4.10 Controller. The Controller, if one shall be elected, shall be the chief accounting officer of the Corporation, and shall have active control of and shall be responsible for all matters pertaining to the accounts of the Corporation and its subsidiaries. The Controller shall supervise the auditing of all payrolls and vouchers of the Corporation and its subsidiaries and shall direct the manner of certifying the same; the Controller shall supervise the manner of keeping all vouchers for payments by the Corporation and its subsidiaries and all other documents relating to such payments; the Controller shall receive, audit and consolidate all operating and financial statements of the Corporation, its various departments, divisions and subsidiaries; the Controller shall supervise the books of account of the Corporation and its subsidiaries, their arrangement and classification; and the Controller shall supervise the accounting and auditing practices of the Corporation and its subsidiaries. In addition, any Assistant Controller may perform the duties of the Controller.

Section 4.11 Assistant Secretaries, Assistant Treasurers, and Assistant Controllers. Assistant Secretaries, Assistant Treasurers, and Assistant Controllers, if any shall be elected, shall have such powers and responsibilities as shall be prescribed by the Board of Directors, and to the extent not inconsistent with the foregoing, by the officer of the Corporation to which such person reports (e.g., by the Treasurer with respect to an Assistant Treasurer).

Section 4.12 Other Officers and Agents. The Board of Directors may elect such other officers and agents as it may deem advisable, who shall hold their offices for such terms and shall exercise such powers and responsibilities as shall be prescribed in writing from time to time by the Board of Directors and, to the extent not inconsistent with the foregoing, by the Senior Officer.

Section 4.13 Appointment of Officers. Notwithstanding anything contained in these Bylaws to the contrary, the Senior Officer shall have the authority to unilaterally appoint any person to hold any office contemplated by Article IV of these Bylaws, other than the offices of Chairman, Chief Executive Officer, President, Chief Financial Officer or Secretary. All such appointed officers shall have such powers and responsibilities applicable to such positions described in these Bylaws. If no Controller has been elected by the Board of Directors, such Senior Officer may also appoint the Controller.

Section 4.14 Chain of Command. By virtue of its place in the Siemens AG group of affiliated companies (collectively, "Siemens"), the Corporation has a fundamental interest in assuring well-functioning cooperation within Siemens. From time to time, as a prerequisite of such cooperation, Siemens AG and certain of its authorized affiliates may take actions to promulgate certain policies, procedures, guidelines, circulars, reporting obligations and other matters (collectively, "Siemens Internal Regulations") that should be implemented and applied within Siemens to the fullest possible extent. Therefore, the Senior Officer – insofar as the Corporation has a Senior Officer or, in his or her absence or disability, the other person, if any, who shall be the Senior Officer, or perform his or her duties, each pursuant to these Bylaws, otherwise all the executive officers serving on the Board of Directors (the "Executive Members") - shall take the necessary precautions to ensure that all the Executive Members shall:

(1) cause the close monitoring of the publication of Siemens Internal Regulations and keep themselves up to date on all applicable Siemens Internal Regulations;

(2) examine (or cause to be examined) whether implementation of each Siemens Internal Regulation by the Corporation is permitted under Delaware law;

a. If the result of this examination is positive, (A) take (or cause to be taken) all appropriate measures to duly cause the timely implementation of such Siemens Internal Regulation by the Corporation and (B) promptly inform (or cause to be informed) the issuer of the respective Siemens Internal Regulation and the CD S OG unit of Siemens AG ("CD S OG") (or any successor internal organization of each) about such implementation including the provision of appropriate documentation.

b. If the result of this examination is not positive (it is found that, for legal reasons, the Siemens Internal Regulation cannot be implemented in the Corporation or can be implemented only with modifications), in each instance, (A) promptly inform (or cause to be informed) the issuer of the respective Siemens Internal Regulation and CD S OG (or any successor internal organization of each) about that and the reasons thereof. Until the

Executive Members have reached agreement with the issuer about the implementation of the relevant Siemens Internal Regulation, the Executive Members shall implement (or cause to be implemented) such regulation in so far as it is legally permissible and reflects as closely as possible the meaning and purpose of the Siemens Internal Regulation;

(3) annul (or cause to be annulled) any existing regulations, policies and practices of the Corporation to the extent such regulations, policies and practices contradict a Siemens Internal Regulation as each is implemented;

(4) take (or cause to be taken) all appropriate measures to duly ensure compliance with implemented Siemens Internal Regulations and to monitor such compliance;

(5) promptly inform (or cause to be informed) the issuer of the respective Siemens Internal Regulation and CD S OG (or any successor internal organization of each) if for legal reasons a Siemens Internal Regulation can no longer, or can only with modifications, be implemented;

(6) adequately document (or cause to be adequately documented) the processes described in subsections (1) through (5) above; and

(7) cause the responsibilities and processes described in subsections (1) through (6) above to be implemented by each subsidiary of the Corporation.

Section 4.15 Joint Representation/Authorized Signatories. All contracts, powers of attorney, bonds, mortgages and other significant documents and instruments to be entered into or filed on behalf of the Corporation with a third party or governmental entity shall be subject to a joint representation (*i.e.*, two-signatures) requirement as set forth herein. However, in the event only one officer has been appointed by the Board of Directors of the Corporation (or only one such officer is holding office at any such time), such officer shall be the Corporation's sole necessary signatory for this joint representation requirement. If two or more officers have been appointed by the Board of Directors of the Corporation (and the Corporation continues to have two or more such officers), such joint representation requirement shall be satisfied by the signature of two board-appointed officers or the signature of one officer appointed by the Senior Officer (pursuant to Section 4.13 of these Bylaws) in conjunction with one board-appointed officer. This joint representation requirement shall not supersede, and shall otherwise conform with, any other requirements applicable to the Corporation pursuant to the Certification of Incorporation, these Bylaws, any limitations of authority or other limitations or restrictions imposed by the Board of Directors from time to time, any applicable Siemens Internal Regulations and any other internal policies or procedures applicable to the Corporation.

ARTICLE V

Miscellaneous

Section 5.01 Certificates of Stock. The shares of the Corporation shall be represented by certificates in such form as shall be determined by the Board of Directors and shall be signed by the President or a Vice President and the Secretary, an Assistant Secretary, the Treasurer or an Assistant Treasurer of the Corporation. The signatures of the officers upon a certificate may be facsimiles if the certificate is countersigned by a Transfer Agent or registered by a Registrar other than the Corporation or its employee. In case any officer who has signed or whose facsimile signature has been placed upon a certificate shall have ceased to be such officer before such certificate is issued, it may be issued by the Corporation with the same effect as if such officer continued to hold such office at the date of issue.

Section 5.02 Transfer Agents and Registrars. The Board of Directors may, in its discretion, appoint one or more banks or trust companies in such city or cities as the Board of Directors may deem advisable, from time to time, to act as Transfer Agents and Registrars of the shares of stock of the Corporation; and upon such appointments being made, no certificate representing shares of stock shall be valid until countersigned by one of such Transfer Agents and registered by one of such Registrars.

Section 5.03 Lost Certificates. In case any certificate representing shares shall be lost, stolen or destroyed, the Board of Directors, or any officer or officers duly authorized by the Board of Directors or these Bylaws, may authorize the issuance of a substitute certificate in place of the certificate so lost, stolen or destroyed, and may cause or authorize such substitute certificate to be countersigned by the appropriate Transfer Agent and registered by the appropriate Registrar. In each such case, the applicant for a substitute certificate shall furnish to the Corporation and to such of its Transfer Agents and Registrars as may require the same, evidence to their satisfaction, in their discretion, of the loss, theft or destruction of such certificate and of the ownership thereof, and also such security or indemnity as may by them be required.

Section 5.04 Transfer of Shares. Transfers of shares shall be made on the books of the Corporation only by the person named in the certificate, or by attorney lawfully constituted in writing, and upon surrender and cancellation of a certificate or certificates for a like number of shares of the same class, with duly executed assignment and power of transfer endorsed thereon or attached thereto, and with such proof of the authenticity of the signatures as the Corporation or its agents may reasonably require, and new certificates shall thereupon be issued.

Section 5.05 Stockholders Record Date. In order that the Corporation may determine the stockholders entitled to notice of or to vote at any meeting of stockholders or any adjournment thereof, or to express consent to corporate action in writing without a meeting, or entitled to receive payment of any dividend or other distribution or allotment of any rights, or entitled to exercise any rights in respect of any change, conversion or exchange of stock or for the purpose of any other lawful action, the Board of Directors may fix, in advance, a record date, which shall not be more than sixty nor less than ten days before the date of such meeting, nor more than sixty days prior to any other action. A determination of stockholders of record entitled to notice of or to vote at a meeting of stockholders shall apply to any adjournment of the

meeting; provided, however, that the Board of Directors may fix a new record date for the adjourned meeting.

Section 5.06 Dividends. Subject to the provisions of law and of the Certificate of Incorporation, the Board of Directors may, out of funds legally available therefor, at any regular or special meeting, declare dividends upon the capital stock of the Corporation as and when they deem expedient. Before declaring any dividend, there may be set apart out of any funds of the Corporation available for dividends, such sum or sums as the directors from time to time in their discretion deem proper for working capital or as a reserve fund to meet contingencies or for equalizing dividends or for such other purposes as the directors shall deem conducive to the interests of the Corporation.

Section 5.07 Fiscal Year. The fiscal year of the Corporation shall end on September 30th of each year.

Section 5.08 Checks. All checks, drafts or other orders for the payment of money, notes or other evidences of indebtedness issued in the name of the Corporation shall be signed by such officer or officers, agent or agents of the Corporation, and in such manner as shall be determined from time to time by resolution of the Board of Directors.

Section 5.9 Notice and Waiver of Notice. Whenever any notice is required by these Bylaws to be given, personal notice is not meant unless expressly so stated, and any notice so required shall be deemed to be sufficient if given by depositing the same in the United States mail, postage prepaid, addressed to the person entitled thereto at his or her address as it appears on the records of the Corporation, and such notice shall be deemed to have been given on the day of such mailing. Notice to directors may also be given by telegram. Stockholders not entitled to vote shall not be entitled to receive notice of any meetings except as otherwise provided by statute.

Whenever any notice is required to be given under the provisions of any law, of the Certificate of Incorporation of the Corporation, or of these Bylaws, a waiver thereof in writing, signed by the person or persons entitled to said notice, whether before or after the time stated therein, shall be deemed equivalent thereto. Neither the business to be transacted at, nor the purpose of, any regular or special meeting of the stockholders, directors, or members of a committee of directors need be specified in any written waiver of notice unless so required by the Certificate of Incorporation. Attendance of a person at a meeting shall constitute a waiver of notice of such meeting, except when the person attends a meeting for the express purpose of objecting, at the beginning of the meeting to the transaction of any business because the meeting is not lawfully called or convened.

ARTICLE VI

Indemnification

Section 6.01 Limitation on Liability. The liability of a director of the Corporation to the Corporation or its stockholders for monetary damages for breach of fiduciary duty as a director shall be limited or eliminated to the fullest extent permitted by applicable law. Any repeal or modification of this Article VI by the stockholders of the Corporation shall not adversely affect any right or protection of a director of the Corporation existing at the time of such repeal or modification.

Section 6.02 Third Party Actions. The Corporation shall, to the fullest extent permitted by applicable law, indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of the Corporation) by reason of the fact that the person is or was a director, officer or employee of the Corporation, or is or was serving at the request of the Corporation as a director, officer or employee of another corporation, partnership, joint venture, trust or other enterprise, against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by the person in connection with such action, suit or proceeding if the person acted in good faith and in a manner the person reasonably believed to be in or not opposed to the best interests of the Corporation, and, with respect to any criminal action or proceeding, had no reasonable cause to believe the person's conduct was unlawful. The termination of any action, suit or proceeding by judgment, order, settlement, conviction, or upon a plea of *nolo contendere* or its equivalent, shall not, of itself, create a presumption that the person did not act in good faith and in a manner which the person reasonably believed to be in or not opposed to the best interests of the Corporation, and, with respect to any criminal action or proceeding, had reasonable cause to believe that the person's conduct was unlawful.

Section 6.03 Actions by or in the Right of the Corporation. The Corporation shall, to the fullest extent permitted by applicable law, indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action or suit by or in the right of the Corporation to procure a judgment in its favor by reason of the fact that the person is or was a director, officer or employee of the Corporation, or is or was serving at the request of the Corporation as a director, officer or employee of another corporation, partnership, joint venture, trust or other enterprise against expenses (including attorneys' fees) actually and reasonably incurred by the person in connection with the defense or settlement of such action or suit if the person acted in good faith and in a manner the person reasonably believed to be in or not opposed to the best interests of the Corporation and except that no indemnification shall be made in respect of any claim, issue or matter as to which such person shall have been adjudged to be liable to the Corporation unless and only to the extent that the Court of Chancery or the court in which such action or suit was brought shall determine upon application that, despite the adjudication of liability but in view of all the circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses which the Court of Chancery or such other court shall deem proper.

Section 6.04 Successful Defense; Payment of Expenses. To the extent that a present or former director or officer of the Corporation has been successful on the merits or otherwise in defense of any

action, suit or proceeding referred to in the Sections of these Bylaws entitled "Third Party Actions" or "Actions by or in the Right of the Corporation", or in defense of any claim, issue or matter therein, such person shall be indemnified against expenses (including attorneys' fees) actually and reasonably incurred by such person in connection therewith.

Section 6.05 Determination of Conduct. Any indemnification under the Sections of these Bylaws entitled "Third Party Actions" or "Actions by or in the Right of the Corporation" (unless ordered by a court) shall be made by the Corporation only as authorized in the specific case upon a determination that indemnification of the present or former director, officer or employee is proper in the circumstances because the person has met the applicable standard of conduct set forth in such Sections. Such determination shall be made, with respect to a person who is a director or officer at the time of such determination, (1) by a majority vote of the directors who are not parties to such action, suit or proceeding, even though less than a quorum, or (2) by a committee of such directors designated by majority vote of such directors, even though less than a quorum, or (3) if there are no such directors, or if such directors so direct, by independent legal counsel in a written opinion, or (4) by the stockholders.

Section 6.06 Advancement of Expenses. Expenses (including attorneys' fees) incurred by an officer or director in defending any civil, criminal, administrative or investigative action, suit or proceeding may be paid by the Corporation in advance of the final disposition of such action, suit or proceeding upon receipt of an undertaking by or on behalf of such director or officer to repay such amount if it shall ultimately be determined that such person is not entitled to be indemnified by the Corporation as authorized in this Article VI. Such expenses (including attorneys' fees) incurred by former directors and officers or other employees and agents may be so paid upon such terms and conditions, if any, as the Corporation deems appropriate.

Section 6.07 Indemnity Not Exclusive. The indemnification and advancement of expenses provided by, or granted pursuant to, the other Sections of this Article VI shall not be deemed exclusive of any other rights to which those seeking indemnification or advancement of expenses may be entitled under any agreement, vote of stockholders or disinterested directors or otherwise, both as to action in such person's official capacity and as to action in another capacity while holding such office.

Section 6.08 Insurance. The Corporation shall have power to purchase and maintain insurance on behalf of any person who is or was a director, officer, employee or agent of the Corporation, or is or was serving at the request of the Corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise against any liability asserted against such person and incurred by such person in any such capacity, or arising out of such person's status as such, whether or not the Corporation would have the power to indemnify such person against such liability under this Article VI.

Section 6.09 Continuation of Indemnification and Advancement of Expenses. The indemnification and advancement of expenses provided by, or granted pursuant to, this Article VI shall, unless otherwise provided when authorized or ratified, continue as to a person who has ceased to be a

director, officer or employee and shall inure to the benefit of the heirs, executors and administrators of such a person.

ARTICLE VII

Amendments

These Bylaws may be altered or repealed, and Bylaws may be made, (1) at any meeting of the stockholders by the affirmative vote of a majority of the stock issued and outstanding and entitled to vote thereat (or pursuant to an action taken pursuant to the Section of these Bylaws entitled "Action Without Meeting"), or (2) by the affirmative vote of a majority of the Board of Directors at any meeting of the Board of Directors; provided, however, that the Section of these Bylaws entitled "Chain of Command" may only be altered or repealed pursuant to subsection (1) of this Article VII.

Exhibit A-18 Secretary of State

QUESTION: Provide evidence that the applicant is currently registered with the Ohio Secretary of the State.

SIEMENS INDUSTRY INC. RESPONSE: Please see attached.

UNITED STATES OF AMERICA
STATE OF OHIO
OFFICE OF THE SECRETARY OF STATE

I, Jon Husted, do hereby certify that I am the duly elected, qualified and present acting Secretary of State for the State of Ohio, and as such have custody of the records of Ohio and Foreign business entities; that said records show SIEMENS INDUSTRY, INC., a Delaware corporation, having qualified to do business within the State of Ohio on October 13, 1998 under License No. 1038340 is currently in GOOD STANDING upon the records of this office.

Witness my hand and the seal of the Secretary of State at Columbus, Ohio this 11th day of December, A.D. 2014.

Jon Husted

Ohio Secretary of State

Validation Number: 201434500385

Exhibit B-1 Jurisdictions of Operation

QUESTION: Provide a current list of all jurisdictions in which the applicant or any affiliated interest of the applicant is, at the date of filing the application, certified, licensed, registered, or otherwise authorized to provide retail natural gas service, or retail/wholesale electric services.

SIEMENS INDUSTRY INC. RESPONSE: CA and TX are states where SII currently provides electricity and/or natural gas broker services and SII is pursuing licenses in a variety of other state jurisdictions as business needs and customers require.

Exhibit B-2 Experience & Plans

QUESTION: Provide a current description of the applicant's experience and plan for contracting with customers, providing contracted services, providing billing statements, and responding to customer inquiries and complaints in accordance with Commission rules adopted pursuant to Section 4929.22 of the Revised Code and contained in Chapter 4901:1-29 of the Ohio Administrative Code.

SIEMENS INDUSTRY INC. RESPONSE: Siemens Industry Inc. ("SII") intends to act as a consultant to large end-use commercial and industrial customers in connection with the customers' procurement of natural gas. SII would provide advice to its customer clients regarding marketplace transactions, and in some instances will administer auction-style competitive procurements on behalf of its customer clients to assist them in obtaining the most favorable natural gas supply agreements from competitive energy commodity suppliers.

Professional backgrounds of the following SII personnel, demonstrating significant experience providing the proposed services, are provided herewith:

- Justin Barstow, Director, C&I Account Management
- Jim Diemer, Siemens Energy Management Segment Head & Vice President
- Jennifer Porter, Operations Manager
- Greg Simmons, Director, C&I Sales

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Justin Barstow - Director, C&I Account Mgmt

Siemens Industry, Inc.

Industry Experience: 12 years

Qualifications and Experience: Justin Barstow serves as an Executive Director in Siemens' Energy Supply Services sub-segment where he is based in Siemens' Columbia, SC office. In this capacity, he is responsible for the overall direction of the account management team and management of the ESS client portfolio. Services performed include strategy development, energy acquisition, portfolio optimization, risk management, energy accounting, contract administration, regulatory monitoring, and management reporting. With his experience in performing complex and challenging energy savings projects and his broad managerial experience in operating in emerging deregulated markets, Mr. Barstow has provided a high level of service to a variety of clients. He has demonstrated insight in the development of comprehensive integrated service packages for industrial, commercial, institutional, and governmental clients and has created unique solutions to accommodate specific needs and constraints in a variety of circumstances.

Mr. Barstow has also served as a Manager in the Pace Global's Energy Management Services Division where he led his department in the analysis and validation of invoices for over 30 clients totaling over 20,000 utility accounts. Under Mr. Barstow's direction, this department was responsible for validation of the historical billing for facility while analyzing pertinent data to determine possible ways to limit energy spend through tariff, tax, operational and capital efficiency opportunities; verification of all invoices processed in the Columbia office to ensure accurate data is entered and transmitted to the client and to identify vendor billing errors which can result in refunds to Pace's clients; and monthly validation to confirm that procured facilities are being billed correctly price based on their contracts.

Mr. Barstow's has extensive experience with aggregate energy purchasing through consortiums for local governments, municipalities, and non-profit institutions.

Mr. Barstow is a Certified Energy Manager (CEM), an accredited Project Management Professional (PMP), a Series 3 Commodity Trading Advisor (CTA), and a LEED Accredited Professional (LEED AP). Mr. Barstow holds an undergraduate degree in Finance and a Masters of Business Administration from the University of South Carolina in Columbia. He uses these skill sets to deliver comprehensive and strategic energy management solutions for SEM's clients.

Siemens Industry, Inc.

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SIEMENS

Industrial and Commercial Services

- *Energy and Carbon Management Strategies.* Mr. Barstow has led Siemens' implementation of a fully integrated energy and carbon management program for industrial companies that builds perspective on the business impacts of energy and carbon, establishes risk thresholds and identifies opportunities in a volatile energy price environment, and sets a strategic path to a managed energy and carbon position. These programs are being actively deployed for several large multi-national companies in various industrial sectors including oil and natural gas services, aluminum extrusion, plastics and consumer products.
- *Market Solicitation and Contract Negotiation.* Mr. Barstow led the negotiation of a new electricity contract for a large consortium of public and private sector non-profits entities in central Pennsylvania to take advantage of the deregulating electricity market. The negotiation preparation included electricity tariff optimization, researching deregulation legislation, and analyzing options to reduce cost exposure in the PJM market. The resulting recommendation has saved the consortium a total of $3 million in electricity charges per year.
- *Corporate Sustainability Program Launch.* On behalf of a global oil and natural gas services company, Mr. Barstow advised and supported the launch of their corporate sustainability program, including the associated data capture and reporting initiatives. Due to its global operations, the data capture and reporting process was challenging but also vitally important to the client. The successful implementation of this program has provided the client with transparency into its carbon footprint to drive its future decisions.
- *Voluntary Load Reduction Programs.* Throughout his 10 years of industry experience at Siemens, Mr. Barstow has consulted with many large industrial and commercial end users on the costs and benefits of voluntary load reduction programs offered both in ERCOT and in other RTOs and ISOs throughout North America. In addition, Mr. Barstow has provided subject matter expertise and support for end users in claims against utilities for involuntary interruptions.

Employment History:	2010 – Present	Executive Director, Account Relationship Management, Sustainability and Energy Management
	2007 – 2010	Account Manager, Strategic Energy Programs, Carbon and Energy Management Division, Pace Global Energy Services, LLC, Columbia, SC
	2003 – 2007	Manager, Energy Market and Management Services, Pace Global Energy Services, LLC, Columbia, SC
	2002 – 2003	Analyst, Energy Information Services, Chevron Energy Solutions, Columbia, SC

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Education:	MBA - 2011	University of South Carolina
	BS - 2002	Finance, University of South Carolina
	BS - 2002	Information Systems, University of South Carolina
Accreditation:		Project Management Professional (PMP)
		Leadership in Energy and Environmental Design Accredited Professional (LEED AP)
		Certified Energy Manager (CEM)
		Certified Demand Side Manager (CDSM)
		Commodity Trading Advisor (CTA)
Languages:		English (native)

SIEMENS

James S. Diemer
SEM Segment Head & Vice President

Industry Experience: 30 years

Qualifications and Experience:

Mr. Diemer is the Sustainability & Energy Management Segment Head within the Building Performance and Sustainability service line of the Building Technologies Division of Siemens Industry Inc. In this capacity he oversees three businesses providing supply-side energy management services, energy efficiency and sustainability services, and strategic consulting services to the energy industry market verticals. He manages the P&L for these businesses and provides leadership to all functional elements (operations, offerings, account management and sales) and oversees approximately 200 staff members and all business partners.

For approximately 30 years, Mr. Diemer has focused on fuel markets, natural gas regulatory matters, development support and financing of energy infrastructure projects and procurement practices for large energy consumers such as independent power plants and industrial power houses. His is a recognized expert in natural gas markets (including LNG), midstream infrastructure and energy procurement and he also has experience in coal, petroleum, electric power and air emissions. Many of Mr. Diemer's engagements relate to the development of corporate strategies for energy infrastructure entities that require the integration of market, development, financial and risk expertise.

Mr. Diemer's recent natural gas activities have been focused on the development, financing and merger/acquisition activities of midstream assets largely driven by the changing supply and demand patterns in the U.S. and around the world. In addition, Mr. Diemer has been deposed as an expert witness in natural gas procurement, transportation, nominations, scheduling and balancing in a case relating a dual-fuel 900+ MW power plant in the state of Georgia. He has also been qualified as and deposed an expert on rate design matters before the Federal Energy Regulatory Commission in the 2008 El Paso Natural Gas Pipeline rate case (RP08-426-000). He continued his support for electric generator shippers in the 2010 El Paso Natural Gas Pipeline rate case (RP10-1398) as an expert witness on cost allocation and rate design matters. A complete listing of Mr. Diemer's expert work is provided below. He has also been a witness in a gas supply dispute between a cogeneration facility and the steam host.

Regulatory Filings and Expert Testimony:

TESTIMONY FILED BY JAMES S. DIEMER
BEFORE THE FEDERAL ENERGY REGULATORY COMMISSION

- *Docket No. RP08-426 – El Paso Natural Gas Company NGA Section 4(e) rate case proceeding:* Presented as an expert witness on various cost allocation and rate design issues on behalf of a group of independent power producers and electric cooperatives.

- *Docket No. CP11-120 – LA Storage, LLC ("LA Storage") NGA Section 7(c) certificate proceeding:* Presented testimony supporting the continuation of market-based rate authority for LA Storage (previously Liberty Gas Storage, LLC).

- *Docket No. RP10-1398 – El Paso Natural Gas Company NGA Section 4(e) rate case proceeding:* Presented as an expert witness on cost allocation and rate design issues on behalf of a group of independent power producers and electric cooperatives.

- *Docket No. CP11-XXX – Sawgrass Storage, LLC ("Sawgrass") NGA Section 7(c) certificate proceeding:* Presented testimony on behalf of Sawgrass supporting its application for market-based rate authority for the greenfield Sawgrass storage project.

- *Docket No. CP11-XXX – Golden Triangle Storage, Inc. ("GTS") NGA Section 7(c) certificate proceeding:* Presented testimony on behalf of GTS, supporting the continuation of market-based rate authority for the expanded facilities of the GTS storage project.

OTHER EXPERT WITNESS ACTIVITIES

- Tenaska Georgia Energy Partners vs Georgia Department of Natural Resource, Environmental Protection Division. Filed testimony and was deposed before an Administrative Law Judge as a qualified expert in natural gas procurement, transportation, nominations, scheduling and balancing in a case relating to the air permit for a 900+ MW dual-fuel power plant.

Employment History:	Oct.2012 - Present	Vice President and Sustainability & Energy Management Segment Head, Siemens Industry Inc, Houston TX
	1997- Sept. 2012	Managing Director Consulting & Executive Vice President (as well as other various positions of increasing responsibility from Project Manager to Vice President), Pace Global Energy Services, LLC, Houston, TX and Fairfax, VA.
	1993-1997	Project Leader, Office of Integrated Analysis and Forecasting, Energy Information Administration, Washington, DC
	1984-1993	Various positions of Analyst thru Resource Manager, Science Application International Corporation, McLean, VA
Education:	MS	Environmental Engineering, University of Illinois at Urbana-Champaign, May 1984
	BS	Engineering, Worcester Polytechnic Institute, May 1982.

Countries of Experience: USA, Brazil, Canada, Colombia, Ghana, Guinea, Mexico, Nigeria, & UK

Recent Presentations/Publications:

Mr. Diemer regularly presents to industry groups in a variety of forums and is frequently quoted in the industry trade press. A sampling of his recent presentations and articles include:

- *Rational Exuberance and Investment Risk,* Euromoney North America Midstream Infrastructure Finance Forum, Houston Texas, April 29, 2014
- *A Perspective on Taking a Risk-Based Approach to Planning,* National Association of State Energy Offices, Natural Gas Task Force, Washington DC, January 28, 2013.
- *The Impacts of LNG Exports on the Demand for Natural Gas Storage,* 11th Annual Platts Gas Storage Conference, Houston, TX, January 13, 2013
- *The Dash for Gas*, American Association of Blacks in Energy, Long Beach, CA, April 28, 2012
- *The North American Natural Gas Industry: The Path Forward*, Natural Gas Council, Houston, TX, October 27, 2011.
- *The Natural Gas Storage Industry: Where Are We Heading?* Infocast Natural Gas Storage Summit, Houston, TX, October 24, 2011.
- *Evolution and Challenges of the Brazilian Natural Gas & Power Markets*, CWC Rio Natural Gas Forum, Rio de Janerio, Brazil, April 2011.
- *Business Models for Longer Duration Storage*, Infocast Storage Week 2010, San Diego, CA July 13, 2010.
- *Role of Storage in Rocky Mountain Gas Markets*, Colorado Oil and Gas Association Annual Conference, Denver, CO, July 9, 2010.
- *Do falling natural gas prices, the unwillingness of the United States to place a price on carbon, and the discoveries of vast gas and oil reserves in the Marcellus and Bakken formations have the potential to upend rosy forecasts for renewables?*, Chadbourne & Parke's 21st Annual Global Energy and Finance Conference, San Diego, CA, June 9, 2010.

- *Current State of North American Natural Gas Market,* Pipeline and Gas Journal Annual Conference, Houston, TX, March 31, 2010.
- *Gas Storage and Related Infrastructure,* Infocast Midstream Gas Summit, Houston, TX, March 1, 2010.
- *Role of Natural Gas in a Carbon Constrained World,* Strategic Thinkers Workshop, American Gas Association, Washington DC, January 12, 2010.
- *Current Outlook for Gas Storage Fundamentals,* Infocast Gas Storage Investment Summit, Houston, TX, October 12, 2009.
- *Current Condition and Future Paths of Global Energy Market—How to Survive the Next Unexpected Event,* Gas Technology Institute Board Meeting, Kohler, WI, August 12, 2009.
- *Perspective on Natural Gas Shale Plays and The Impact on North American Midstream Infrastructure,* Infocast Midstream Acquisition and Divestiture Summit, Houston, TX, February 19, 2009.
- *Emerging Dynamics of the Global LNG Market: North America's Newest Roller Coaster Ride,* North Baja/Gasoducto Baja Norte/Energia Costal Azul Shipper's Conference, San Diego, CA, October 9, 2008
- *Commercial Opportunities for Storage Trading and Market Rates,* The Canadian Institute Natural Gas Storage Conference, Toronto, Canada, September 30, 2008
- *Identifying and Overcoming Hurdles and Risks in Gas Storage Development*, Infocast Gas Storage Development Tutorial, Houston, TX, May 28 – 30, 2008.
- *Pricing—Supply and Demand, Global Competition and Price Convergence,* Platts 7th Annual Global LNG Conference, Houston TX, May 15-16, 2008.
- *Burgeoning Gulf Coast Natural Gas Storage Development Driven by Market Globalization,* Pipeline and Gas Journal, May 2008.
- *Impact of LNG on Gulf Coast Storage Investment Risk,* Platt's 6th Annual Gas Storage Summit, Houston, TX, January 16-17, 2008.
- *LNG Pricing Models,* Second Annual LNG Infrastructure Conference, Mexico City, Mexico, October 10, 2007.
- *The Business Model for Gas Storage,* Infocast's Gas Storage Finance and Investment Summit Conference, Houston, TX, October 22, 2007.
- *Outlook for North American LNG Supply,* Platt's Global LNG Conference, Houston, TX, May 21, 2007.
- *The Path for Gas—New Supplies, Changing Demand and New Development Opportunities,* Pace Global Energy Services Houston Market Forum, Houston, TX, April 10, 2007.
- *Natural Gas Storage Development and Business Models—A Tutorial,* Infocast's Gas Storage and Investment Summit, Houston, TX, October 22, 2007.
- *Outlook for LNG in North America: Will it come in time? Will the market be there?* Annual Pace Global Bankers Brunch, New York, New York, October 3, 2006.
- *Impact of Emissions Regulations and Compliance Costs on Fuel Choice,* Platt's 3rd Annual Bunker & Residual Fuel Oil Conference, An Assessment of the Global Markets for the "*Bottom of the Barrel*", Houston, TX, June 20, 2006.
- *North American Regas Unfolding,* Hart Energy Global LNG Outlook Conference, Houston, TX, October 26, 2005.
- *U.S. Natural Gas Market Outlook 2005: Little Growth Despite High Prices,* Platt's Annual Natural Gas Outlook 2005, Houston, TX January 2005.
- *High and Unstable Oil Prices: Potential Responses for Consumers,* Platt's Annual Caribbean Energy Conference, Miami, FL, January 2005.
- *Hidden Implications of LNG in Supply Portfolio Planning, with John Landry,* NEA's Users Forum 2005: Insight and Advantage, Atlanta, Georgia, May 2005.
- *North American Natural Gas Outlook 2005,* American Coal Council Spring Forum 2005, Scottsdale, AZ, May 2005.

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Infrastructure & Cities

Jennifer Porter, Operations

Industry Experience: 19 years

Qualifications and Experience:
Jennifer Porter serves as the Operations Manager for the Energy Supply Service business at Siemens Industry Inc. In this capacity, she leads a team of over 100 professional program managers, energy analysts, procurement specialists, data management technicians and financial specialists who actively manage a global portfolio of over 10K facilities in more than 40 countries. Ms. Porter and her team represent a broad range of energy experience including expertise in energy strategies, regulated tariff analysis, energy procurement, financial transactions and web based energy system solutions.

Ms. Porter has played a major role in designing and implementing the processes that provide domestic and international customers with a comprehensive, single-source and cost-effective energy management service. Her responsibilities include ensuring efficient and accurate processes for all services; recommending and implementing modifications to reach maximum productivity; optimizing customer's energy cost and consumption; and providing strategic planning in the areas of budgeting, deal structuring and carbon foot printing. Ms. Porter is responsible for all aspects of the business operation including the development of new products and information technology-based systems.

Before joining Siemens, Ms. Porter served in several energy management roles for Chevron Corporation and PG&E Energy Services. She also worked for the Federal Highway Administration where she conducted complex reviews of state government financial statements to ensure compliance with Federal requirements and modern management practices and concepts.

Employment History:	2012 – Present	Operations Manager, Siemens Industry Inc, Columbia, SC
	2010 – 2012	Vice President, Operations, Pace Global Energy Services, LLC, Columbia, SC
	2007 – 2010	Operations Manager, Pace Global Energy Services, LLC, Columbia, SC
	2003 – 2007	Director, Pace Global Energy Services, LLC, Columbia, SC
	2000 – 2003	Manager, Chevron Energy Solutions, Columbia, SC
	1997 – 2000	Manager, PG&E Energy Services, Columbia, SC
	1995 – 1997	Manager, Utility Services Associates, Columbia, SC
	1990 – 1995	Financial Management Assistant, Federal Highway Administration, Columbia, SC
Education:	BS	Business Administration (Management) University of South Carolina
	Certificate	Executive Integral Leadership University of Notre Dame Notre Dame, IN

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Greg Simmons - Director, C&I Sales

Siemens Industry, Inc.

Industry Experience: 20 years

Qualifications and Experience: With nearly 20 years of experience in the energy and utilities industry, Mr. Simmons is an energy subject matter expert with a proven ability to analyze the energy and carbon management needs of any large commercial, industrial or institutional client. Mr. Simmons' primary areas of focus include: electricity sales, natural gas sales, energy commodity procurement, development of custom hedging strategies, establishment of risk management protocols, tariff rate analysis, evaluation of energy efficiency projects and assessment of market & regulatory risks. Mr. Simmons presently serves clients by providing commercial insights in the areas of retail electricity procurement, retail natural gas procurement, financial scenario analysis, energy cost and usage forecasting, competitive intelligence, sustainability services and general management consulting. Mr. Simmons has repeatedly demonstrated an ability to translate technically complex information into actionable data usable by the business decision maker.

Sustainability and Energy Management

- Mr. Simmons has directed numerous engagements focused on the deployment of customized energy and carbon solutions that meet the unique business needs of a diverse portfolio of commercial, industrial and governmental clients. In doing so, Mr. Simmons is actively advising clients on the implementation of energy management strategies that, within the context of an established risk policy, act to reduce energy usage, moderate cost volatility and decrease carbon liabilities. Mr. Simmons has advised clients on the installation of flexible and scalable data management solutions that allow for the administration of complex utility cost and carbon emissions data, establishes energy budgets & emissions baselines and produces compliance summaries designed to meet both mandatory & voluntary sustainability reporting requirements.

- Mr. Simmons currently leads successful engagements with large commercial, industrial and institutional entities such as the Extended Stay Hotels, Valspar Corporation, and Villanova University.

- Mr. Simmons has overseen the marketing redesign of programs and tools that provide value to the customers of several Siemens clients. These projects included advisory services related to corporate brand, a corporate website and online data management solutions.

- Mr. Simmons presently leads significant consulting engages for two of Siemens largest clients: one a *Fortune 500*, vertically integrated electric utility, and the second a large municipality. In both cases, Siemens provided these clients with important insights on wholesale and retail market operations and costs, providing significant analysis and value.

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Wholesale and Retail Energy Supply

- Mr. Simmons has successfully managed contracts with large commercial and governmental customers for electricity, natural gas and other solutions related to energy efficiency, demand response and overall energy cost reductions. These engagements included governmental agencies such as the General Services Administration and the Department of Defense. Mr. Simmons has also effectively worked with commercial and industrial customers such Novartis Pharmaceuticals and Rutgers University to implement innovative energy procurement strategies that allowed for transparent access to wholesale markets and proactive management of the customer's energy budget.

- Mr. Simmons commonly acts as a technical expert in the areas of renewable energy, regulatory affairs and energy derivative products. Mr. Simmons utilizes an asset management methodology to assist customers in instituting energy purchasing strategies commensurate with each customer's risk tolerance. Mr. Simmons has successfully negotiated transactions based on NYMEX futures contracts, Locational Marginal Prices ("LMP") and bilateral transactions.

- Mr. Simmons has developed financial models designed to prioritize and assess the potential opportunity of new markets, including the creation of business cases to support new market entry recommendations. In these cases, Mr. Simmons worked with the clients to monitor the performance of existing markets and suggested programs to meet sales goals. These analyzes commonly included the forecasting of various scenarios to identify, and avoid, business risks.

- Mr. Simmons has successfully managed the profitability, development and full life cycle of a line of electricity products and environmentally friendly initiatives for residential and small commercial customers. This engagement included the creation of an original product business plan that projections of long-range revenues and profits over several scenarios.

- Mr. Simmons managed a portfolio of clients with an aggregate electrical demand of nearly 5,000 MWs and an annual natural gas requirement exceeding 30 Bcf.

- Mr. Simmons developed a portfolio purchasing program for the Baltimore Regional Cooperative Purchasing Committee. This program has generated approximately $31 Million in savings for group members.

- Mr. Simmons created models analyzing the financial impact of regulatory changes in capacity, transmission and the renewable portfolio standard. This analysis assisted clients by promoted strategies to help mitigate associated cost increases.

- Mr. Simmons has managed the evaluation and implementation of numerous energy efficiency projects, peak load management programs, demand response solutions and advanced metering alternatives at industrial and commercial sites.

- Mr. Simmons advised a large, national retail electricity supplier on the implementation of wholesale hedging solutions designed to reduce the size of ongoing collateral obligations via the use of credit default swaps, call options and novation transactions.

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- Mr. Simmons has worked with buyers and sellers operating in the renewable energy marketplace to provide retail end users with greater access to green generation alternatives, renewable energy certificates ("RECs") and assistance in achieving sustainability goals.

- Mr. Simmons has worked with numerous clients to completed energy supply transactions for fixed price, index based and hybrid contracts with customers located throughout PJM, MISO, the NYISO, ISO-NE and ERCOT.

Employment History:

2009 - Present	Director, C&I Sales Siemens Industry, Inc. Fairfax, VA
2007 - 2009	Vice President, Retail Commodity Sales Pepco Energy Services, Inc. Arlington, VA
2006 - 2007	Director, Mid-Atlantic & Midwest Operations Pepco Energy Services, Inc. Arlington, VA
2004 - 2006	Manager, Market Strategy and Expansion Pepco Energy Services, Inc. Arlington, VA
2003 - 2004	MCI Communications Manager, Product Strategy and Pricing Ashburn, VA
2001 - 2003	Product Manager, Retail Electricity Pepco Energy Services, Inc. Arlington, VA
2000 - 2001	Manager, Channel Marketing Net2000 Communications, Inc. Herndon, VA
1997 - 2000	Statoil Energy Services, Inc. Strategic Accounts Manager Alexandria, VA

Education:

M.B.A.	Master of Business Administration University of Maryland (Focus: Corporate Finance) College Park, MD
B.S.	Bachelor of Science in Public Administration George Mason University (Minor: Economics) Fairfax, VA
Certificate	Executive Integral Leadership University of Notre Dame Norte Dame, IN

Countries of Experience: United States, Canada, Europe, Asia

Languages: English

Exhibit B-3 Summary of Experience

QUESTION: Provide a concise and current summary of the applicant's experience in providing the service(s) for which it is seeking to be certified to provide (e.g., number and types of customers served, utility service areas, volume of gas supplied, etc.).

SIEMENS INDUSTRY INC. RESPONSE: Please see Exhibit B-2.

Exhibit B-4 Disclosure of Liabilities and Investigations

QUESTION: Provide a description of all existing, pending or past rulings, judgments, contingent liabilities, revocation of authority, regulatory investigations, or any other matter that could adversely impact the applicant's financial or operational status or ability to provide the services it is seeking to be certified to provide.

SIEMENS INDUSTRY INC. RESPONSE: Siemens Industry, Inc. ("SII"), a subsidiary member of Siemens Corporation, is a multi-billion dollar company involved in wide ranging construction projects. As such SII has been involved in miscellaneous litigation (e.g., collection of fees, workers' compensation, etc.) arising out of its business, none of which are of a material nature, individually or collectively, as to adversely impact its ability to completely and satisfactorily perform any of the services it is seeking to be certified to provide.

Exhibit C-1 Annual Reports

QUESTION: provide the two most recent Annual Reports to Shareholders. If applicant does not have annual reports, the applicant should provide similar information in Exhibit C-1 or indicate that Exhibit C-1 is not applicable and why.

SIEMENS INDUSTRY INC. RESPONSE: Please see attached.

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Energy efficiency

Next-generation healthcare

Industrial productivity

Intelligent infrastructure solutions

Thinking for the long term
Providing answers

Annual Report 2013

siemens.com

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Energy efficiency

Next-generation healthcare

Industrial productivity

Intelligent infrastructure solutions

Siemens at a glance

Fiscal 2013

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Company Report 2013

Living our visions
Achieving our goals

RUS | Kirishi, Russia | Energy solutions | pages 4-21

How do you convert an aging power station into one of the most efficient combined cycle power plants in Russia? How can you produce energy more efficiently while protecting the climate? Kirill Gamburger and Denis Bashuk report on a project that has implications for power generation far beyond Russia's borders.

WWW.SIEMENS.COM/AR/REPORT-ENERGY

Generating power more efficiently

Protecting the environment

A single report
An integrated approach

Welcome to Siemens' Annual Report for 2013. This year, we've combined our previously separate Annual and Sustainability Reports to provide an integrated overview of our Company's key topics. We trust you'll find it interesting and informative. And don't miss the related website, which includes a wide range of impressive video and picture material as well as links to further information.

WWW.SIEMENS.COM/ANNUAL-REPORT

Enhancing industrial productivity

Creating efficient solutions

USA | York Harbor, U.S. | Industry solutions | pages 40-59

What are the challenges facing people who need joint replacements? What role can industry software play in producing prosthetics? And what does the future hold for developments in this area? Three questions from three different perspectives: Gordon France, Sabine Fietz and Professor Berend Denkena provide answers and offer insights into an important topic for today and tomorrow.

WWW.SIEMENS.COM/AR/REPORT-INDUSTRY

IND | Gurgaon, New Delhi, India | Healthcare solutions | pages 22 - 39

How can the medical challenges facing the Indian subcontinent be mastered? How can access to affordable healthcare be expanded? And how can advanced medical technologies help make it all happen? Dr. Naresh Trehan, founder of "Medanta – The Medicity," and heart surgeon Dr. Namrata Gaur have been addressing these questions for years. To make high-quality healthcare services affordable for as many people as possible – that's their aspiration.

WWW.SIEMENS.COM/AR/REPORT-HEALTHCARE

Providing high-quality medical technology

Improving healthcare

Making visions a reality

Targeting actions

Making infrastructures more intelligent

Enhancing quality of life

AUT | Vienna, Austria | Infrastructure solutions | pages 60 - 79

What makes an already very livable city even more livable? How are intelligent infrastructure solutions improving the quality of urban life? And what makes these solutions intelligent in the first place? Mayor Michael Häupl and the Freimüller-Köhler family talk about their hometown of Vienna – one of the most livable cities in the world.

WWW.SIEMENS.COM/AR/REPORT-IC

Corporate strategy | pages 80 - 85

How can we create sustainable value? What are our goals? And how do we measure the success of our business activities? To find out, take a look at our strategy report, which provides an overview of the principles that are guiding our actions and helping us achieve our aim of creating sustainable value.

WWW.SIEMENS.COM/AR/STRATEGY

"How can we better protect our environment with new technologies?"

Kirill Gamburger – Siemens engineer – St. Petersburg, Russia

I love being an engineer, and I'm very passionate about my work. I guess you could say engineering runs in my family. My grandfather was an engineer, and both my mother and my father are engineers. So our family lives and breathes the profession. While studying in St. Petersburg and Finland, I learned how technology enables us to meet the major challenges of our time. At Siemens, I'm now drawing on this experience. As the engineer responsible for servicing and maintaining the upgraded unit at the Kirishi combined cycle power plant, I'm helping drive ecofriendly power generation in Russia.

RUS | Kirishi | 59°27'N, 32°1'E | Population: about 53,000

Leveraging business opportunities

"How can we generate more electricity with less natural gas?"

Denis Bashuk – General Manager of OGK-2 – Moscow, Russia

As one of the largest energy utilities in Russia, OGK-2 currently generates about 8% of the country's electrical power. To meet the continually growing demand for electricity, we're not only building new power plants but also upgrading many of our older steam-driven facilities, which date back to the days of the Soviet Union. As chief engineer at the Kirishi power plant, I personally supervised the plant's modernization, and as general manager of the company that operates it, I'm now seeing the results. What's my conclusion? Siemens' high-efficiency combined cycle power plant technology is a winner.

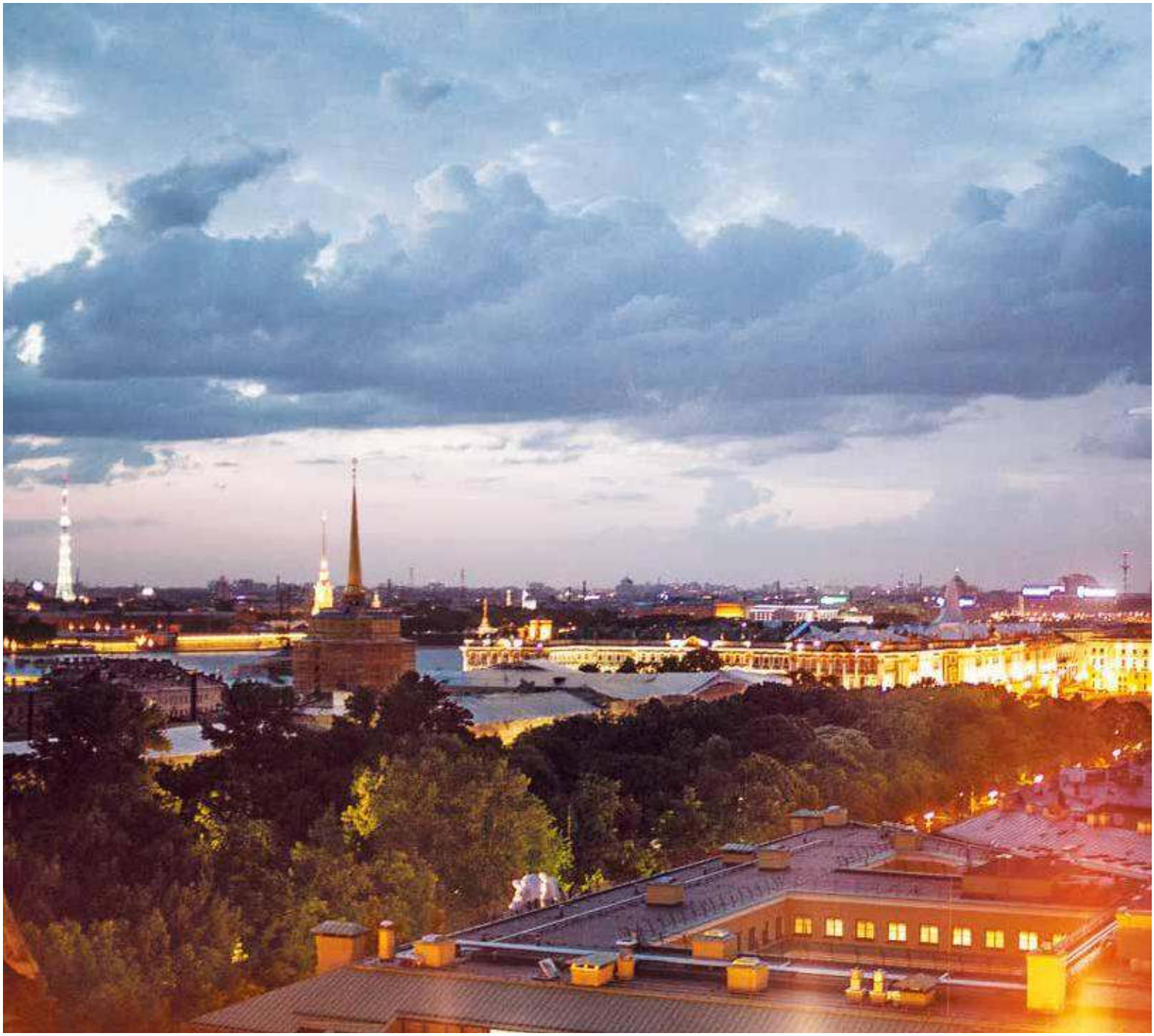
Efficient power production for Russia

“I must admit I feel quite proud when the lights come on in St. Petersburg.”

Siemens’ energy solutions | Power plant modernization

Kirishi, Russia

There are some cities whose magic truly comes alive at night – and St. Petersburg is certainly one of them. Whether in summer, when the city stays light for up to 20 hours a day during the famous “white nights,” or in winter, when the former czarist capital is covered in snow and its historic buildings are spectacularly illuminated, residents and tourists alike are enchanted by nighttime in St. Petersburg – a city of more than a million inhabitants and the world’s northernmost metropolis. Kirill Gamburger has good reason to be proud of St. Petersburg’s nocturnal charm because he’s one of the people who helps ensure that its handsome avenues are brightly lit: “When the lights come on, I know that my power plant in Kirishi is operating smoothly at full load.” The 27-year-old Siemens engineer is responsible for maintaining and servicing two gas turbines, two generators and the automatic control system at the power plant in Kirishi, a town about 170 kilometers southeast of St. Petersburg. The facility supplies electricity to residents and businesses across northwestern Russia. “I’m responsible for Unit 6, which is Russia’s biggest combined cycle power plant,” explains Gamburger. Originally built during the Soviet era as a steam power plant, the facility has now been upgraded by Siemens.



1 – Siemens engineer and project manager Kirill Gamburger enjoys living and working in St. Petersburg, where he also completed his university studies in engineering.

2 – View of St. Petersburg at night, from St. Isaac's Cathedral. In the summer, the city stays light very late, and street lighting is required for only a few hours before the sun rises again.

1 2

1 – The turbine hall of Unit 6 at the Kirishi power plant is enormous. Siemens engineer Andrey Lukashkin (right) is on site five days a week, working with plant employees to monitor the system.

2 – Once a month, Kirill Gamburger (left) travels from St. Petersburg to Kirishi to consult personally with his Siemens colleague Andrey Lukashkin, who works at the plant.

Siemens project manager Kirill Gamburger is responsible for ensuring that the upgraded Unit 6 at the Kirishi power plant operates smoothly. The engineering profession runs in the blood of this passionate engineer. Gamburger, who also devotes his free time to technology-related pursuits, is descended from three engineers – following in the footsteps of not only his mother and father but of his grandfather as well. And he's not the only family member to uphold the tradition: his brothers also studied engineering in St. Petersburg. At Siemens, Gamburger can put his skills to the test: "I'm primarily responsible for long-term service agreements that run for six to twelve years – or 50% to 100% of a gas turbine's entire lifecycle. I organize the delivery of replacement parts, recruit employees, prepare work plans and schedules, and coordinate all these processes in consultation with the plant staff." Gamburger will remain in charge of Kirishi's repowered Unit 6 throughout its lifecycle since plant operator OGK-2 and Siemens have signed a service agreement for the gas turbines and generators that extends from 2013 to 2025.

The growing energy needs of a vibrant region

Russia's huge reserves of natural gas and petroleum are extremely important for the country's economy and its roughly 143 million inhabitants as well as for meeting the energy needs of Europe and Asia. As one of the world's largest electricity producers, Russia is facing new challenges. According to Russian government forecasts, demand for electricity will increase 50% by 2030. The problem is that many of the country's power plants are outdated. According to Russia's Ministry of Energy, half the country's steam power plants have been in operation for anywhere from 32 to 50 years, and another 22% were commissioned over 50 years ago. In view of the low efficiency of many of these plants, Russia is investing heavily to expand its power-generating capacity.

But supply bottlenecks cannot be eliminated simply by building new power plants. The only way to ensure that businesses and residents have ample, reliable supplies of power is to boost the efficiency of existing plants as well. Russia currently generates most of its electricity at aging steam power plants. Our upgrade at Kirishi impressively demonstrates how the peak output and energy efficiency of existing facilities can be dramatically improved.

Energy-efficient and environmentally friendly

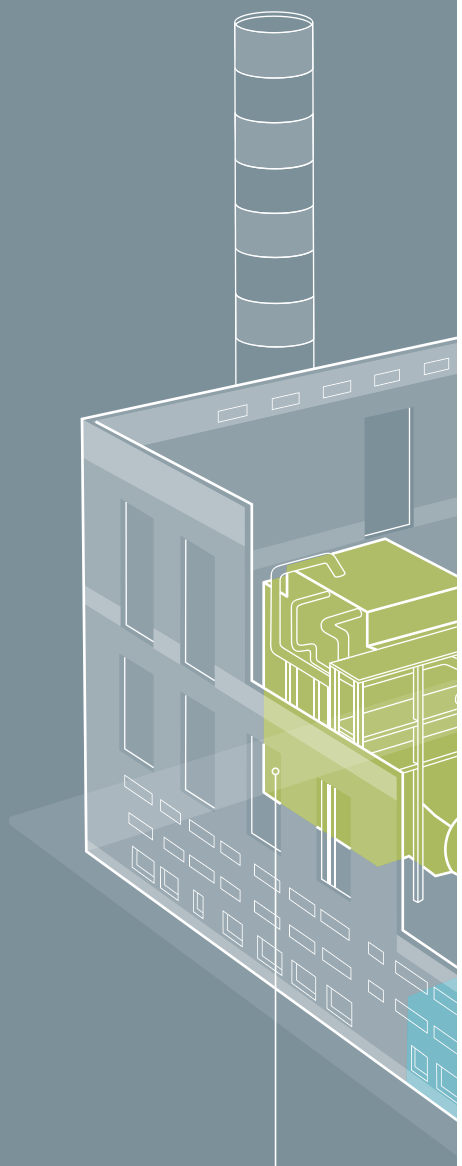
A failure at Kirishi's Unit 6 would have negative consequences for the power supply in St. Petersburg and across the northwestern region of Russia. As project manager, Kirill Gamburger has a great deal of responsibility for the power plant's availability and performance. He also keeps a close eye on operating costs for his customer: "We're now making better use of valuable natural gas, and our customer is benefiting from substantial cost savings. Just consider the comparison: the efficiency of the old units was 38%, while the new units are reaching 55%. That means we need one-third less natural gas to generate the same amount of electricity." And this increased efficiency also benefits the environment: "One-third less natural gas per kilowatt-hour of electricity means one-third fewer emissions of climate-damaging carbon dioxide per kilowatt-hour," notes Kirill Gamburger. → PAGE 21

Increase in capacity **500 MW**

The modernization of Unit 6 at the Kirishi power plant nearly tripled the unit's installed capacity, from about 300 to 800 megawatts.

Lots of electricity from hot exhaust gases

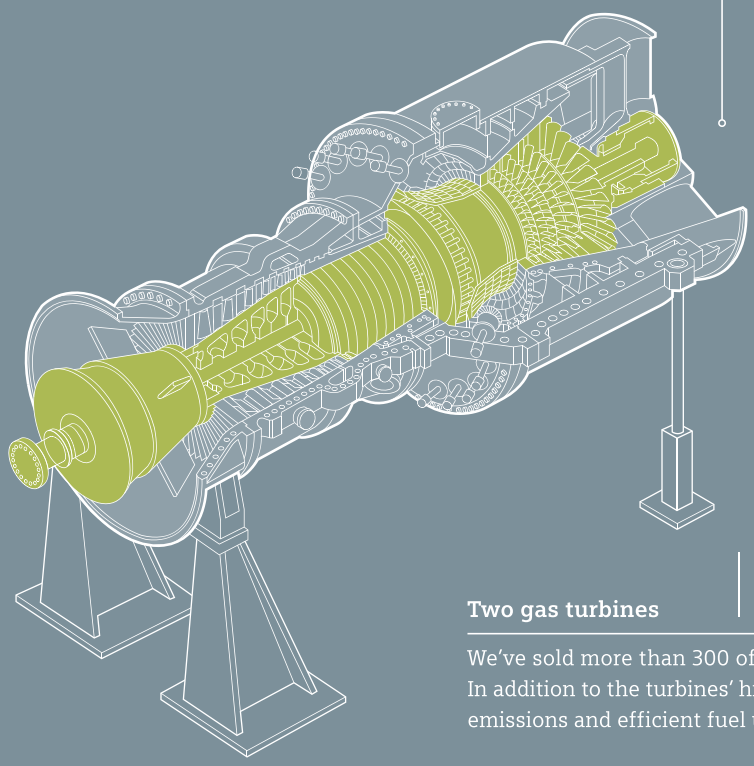
The retrofitted Unit 6 at the Kirishi facility is a state-of-the-art combined cycle power plant of the kind that Siemens has installed in many parts of the world over the last few years. Our advanced technology enables the highly efficient use of fuel (natural gas in Kirishi's case). When the fuel is burned, thermal energy is converted into mechanical energy, which drives a gas turbine – as in a jet engine. The gas turbine is connected via a shaft to a generator, which produces electricity. When emitted, the turbine's exhaust gases have a temperature of between 500°C and 600°C. At Kirishi, these gases no longer go unused but are harnessed to produce steam, which is then used to generate additional energy. Thanks to this technology, combined cycle power plants are the most efficient type of conventional power plant.



Efficiency

55%

Prior to the upgrade, Unit 6 achieved an efficiency of 38%. Thanks to our innovative systems, 55% of the energy contained in the natural gas used to drive the unit's turbines is now being converted into electrical energy.



Two gas turbines

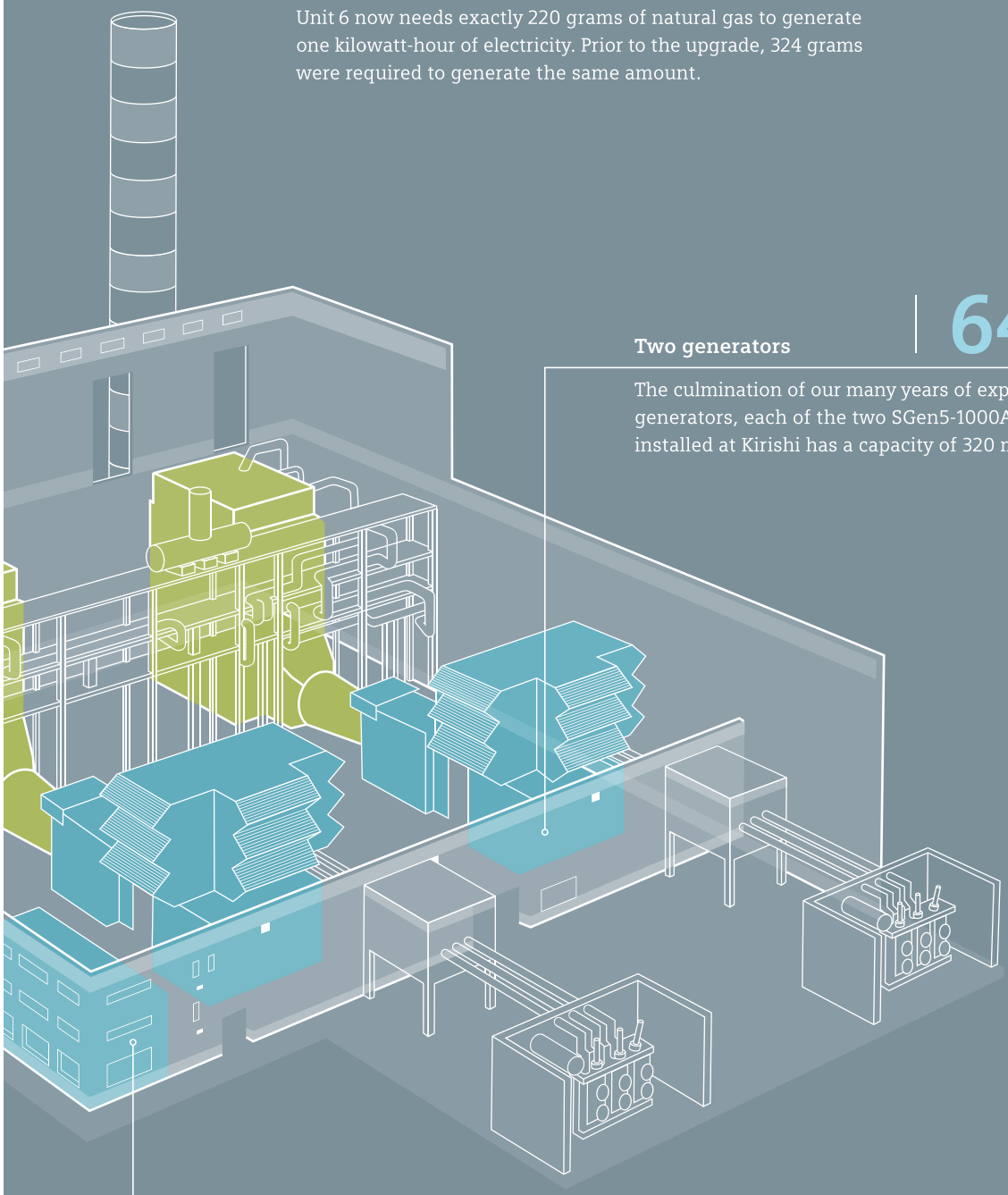
more than 300 turbines

We've sold more than 300 of our SGT5-4000F turbines worldwide. In addition to the turbines' high output, customers value their low emissions and efficient fuel use.

Reduction in gas consumption

104 g/kWh

Unit 6 now needs exactly 220 grams of natural gas to generate one kilowatt-hour of electricity. Prior to the upgrade, 324 grams were required to generate the same amount.



Two generators

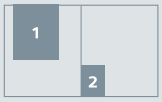
640 MW

The culmination of our many years of experience in producing generators, each of the two SGen5-1000A generators that we installed at Kirishi has a capacity of 320 megawatts.

Control system

24 hours

Extremely reliable and easy to operate, our advanced control system at Kirishi facilitates everyday processes. All employees – from shift supervisors to service engineers – can perform their work from nearly any location in the plant, around the clock.



1 – During a visit to Kirishi, Denis Bashuk, the general manager of power plant operator OGK-2, surveys the entire plant from the meeting room.

2 – The Kirishi power plant was built in the mid-1960s. Unit 6, pictured here, was commissioned in the early 1970s as a conventional steam power plant. The unit was upgraded and expanded by Siemens in 2012.

"We can now dispense with the use of environmentally harmful heavy oil."

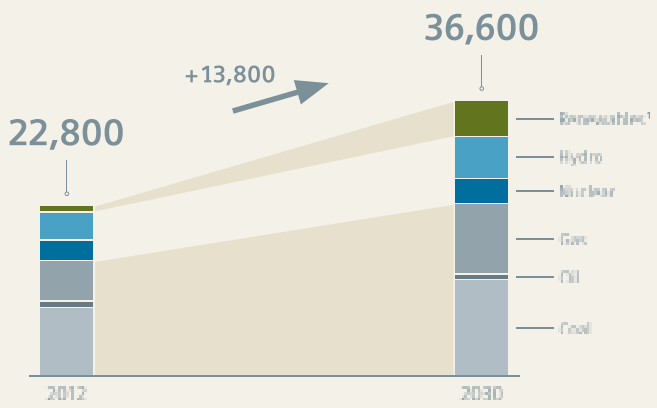
Denis Bashuk is the general manager of the Russian energy utility OGK-2. Before assuming this position, he was chief engineer at the Kirishi power plant, where he headed one of Russia's largest projects to upgrade and boost the efficiency of a conventional steam power plant. Bashuk's positive experience working with Siemens convinced him to rely on us for servicing Kirishi and for retrofitting other plants with our technologies.

The updated Unit 6 at Kirishi has been in regular service since 2012. Have your expectations been fulfilled?

Denis Bashuk: This interview has given me a good reason to come back to Kirishi from our Moscow headquarters and see for myself how well Unit 6 is performing. As chief engineer at Kirishi, I oversaw the unit's modernization from 2005 to 2008. At that time, I was very anxious to see if all the ambitious target parameters could be fulfilled. And Siemens kept its word. The new turbine unit, which has a capacity of 800 megawatts, has increased our efficiency

Our answers to the challenges of climate change

Worldwide power generation (in terawatt-hours)



1 Excluding hydro
Source: Siemens

How will we generate the power we'll need in the future? This is a pressing question for many countries today, even though the challenges vary from place to place. While the demand for electricity is soaring in the world's emerging markets, cost-efficiency and, in some cases, climate protection are the primary concerns in the industrialized countries. A wide range of diverse measures will be required to meet all these challenges. Energy systems around the world are becoming much more complex. The linear energy-conversion chain of the past is evolving into a complex power matrix comprising many different producers and consumers.

We're ideally positioned to master these challenges. Our portfolio encompasses energy-saving products, solutions and services in the fields of resource-conserving and climate-friendly power generation, low-loss power transmission and intelligent power distribution via smart grids.

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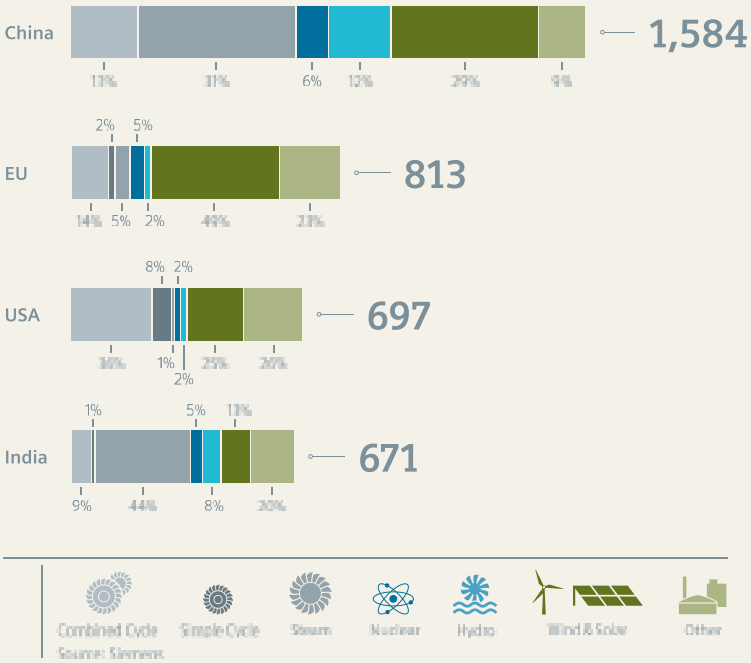
Generating power while minimizing resource use and environmental impact

Expected increase in capacity from new power plants, 2013 – 2030 (in gigawatts)



The future of power generation will depend on achieving a balanced energy mix. One key focus will be to expand the use of renewables. As the leading provider of offshore wind turbines, we're playing a vital role here. For example, we built the world's largest offshore wind farm, the London Array, off the coast of the UK. The installation's 175 turbines are now generating enough power to supply about 500,000 British households with green electricity.

Flexible, high-efficiency fossil-fuel power plants will also be needed to ensure reliable power supplies. The most efficient fossil-fuel power plants are state-of-the-art combined cycle plants, whose fuel consumption per kilowatt-hour is about one-third less than the average figure for the world's gas-fired fleet. Even greater efficiency can be attained using combined heat and power plants, which generate both electricity and heat in the form of steam or hot water. The net efficiency of the gas-fired cogeneration plant that we're now building in Düsseldorf, Germany is expected to exceed 61%. When the thermal energy that will be diverted for district heating is also included in the equation, overall fuel utilization efficiency increases to 85%.

Distributing power intelligently

Comparison of power transmission systems

HVDC = High-voltage direct-current transmission
Conventional alternating-current transmission
Source: Siemens

Ideally, renewable energy sources are utilized where they're most abundant. However, installations for harvesting renewables are often located far from consumption centers, making the expansion of long-distance transmission grids a key priority. Today's grid of choice is based on high-voltage direct-current (HVDC) transmission technology, which is one of our strengths. We're a leading provider of products and solutions that enable the low-loss transmission of large amounts of electricity over long distances.

In consumption centers, the growing but fluctuating feed-in of electricity from renewable sources can lead to supply instability. Our smart grids safeguard the stability and security of power supplies – for example, by balancing supply and demand with the help of innovative software solutions.

Because the amount of power provided by the wind and the sun fluctuates, energy storage solutions are becoming increasingly important. We're working intensively to develop new solutions for storing large quantities of surplus power. Among other projects, we're testing electrolysis systems that convert surplus electricity into storable hydrogen, which can then be used to power fuel-cell vehicles, for example.

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Slashing electricity consumption

Saving energy with intelligent building systems

40%
of the energy used worldwide is consumed by buildings

21%
of greenhouse gas emissions originate from buildings

30%
reduction in energy consumption with Siemens' intelligent building technologies

Sources: United States Department of Energy, "Energy consumption by application in commercial buildings," and International Energy Agency (IEA), "World Energy Outlook 2008"

The cleanest electricity is always the electricity that's not used at all. The potential for reducing energy consumption and thus cutting costs is particularly high in buildings, industrial production and transportation. We provide technologies that match power consumption to availability. For example, our demand management systems are helping more and more consumers use power when supplies are high and rates are low.

Our intelligent building technologies are boosting the energy efficiency of residential and commercial buildings while enhancing comfort and productivity for users. Comprising a wide range of solutions and services, our building management systems control everything from electrical installations and heating, ventilation and air conditioning systems to lighting, access control, video surveillance and fire safety solutions.

In the area of transportation, electric mobility is of major significance. Whether in buses, trains or cars, our electric motors are about three times as efficient as internal combustion engines. And transportation isn't the only area in which electric motors are providing answers. They're also optimally suited for use in industry, where they power conveyor belts and pumps, for example. Electric drive systems currently account for nearly two-thirds of industrial power consumption, which our optimized drive solutions can slash by up to 70%.

in generating electricity from natural gas from the earlier level of 38% to 55% today. As a result, we now need one-third less natural gas to produce the same amount of electricity.

Why did OGK-2 choose Siemens as its partner for this project?

Denis Bashuk: We first started thinking about repowering the turbine unit around 2004. There were various technical possibilities, and several companies submitted interesting offers for turnkey solutions. One argument in favor of Siemens was that its gas turbines fit in perfectly with our modernization concept. A high degree of operational reliability was also important to us, and we were impressed with Siemens' very good references in this respect. In previous years, Siemens had built more than a hundred similar turbines, which were consistently praised by their operators.

You trust us so much that OGK-2 has commissioned Siemens to service Unit 6 until 2025.

Denis Bashuk: Yes, that's in line with our philosophy. We prefer it when the original manufacturer takes responsibility for maintaining and servicing its systems. Our contract with Siemens is for twelve years, and we're confident that we won't have any problems with service and maintenance during this time.

What impact is the upgrade of Unit 6 having on the environment?

Denis Bashuk: A very positive one! Since the power plant now utilizes natural gas much more efficiently than before, we've substantially lowered our emissions of carbon dioxide and nitric oxide. What's more, we no longer need to burn heavy oil as well in order to generate electricity. Unfortunately, that used to be the case, particularly during peak load times in the autumn and winter. In the winter of 2012/2013, just a few months after the upgrade was completed, we were able to dispense with the use of heavy oil for the first time ever.

As the general manager of a major power plant operator in Russia, how do you see the sustainable energy mix of the future?

Denis Bashuk: To achieve a sustainable energy mix in the European part of our country, we need to keep improving our efficiency in burning fossil fuels. The best way to do that is to convert our older steam power plants into advanced combined cycle power plants. We've only recently begun to use this technology in Russia. New and upgraded combined cycle power plants are also my preferred solution for meeting the growing demand for electricity in Russia while minimizing the consumption of primary energy.

What is OGK-2 planning in this regard?

Denis Bashuk: We're truly impressed with the results of Siemens' upgrade of Unit 6 at Kirishi. At the moment, OGK-2 is building two new units, at the Cherepovets and Serov power plants, using combined cycle turbines from Siemens for both projects. And the construction of a third unit is in the planning phase.

The young engineer has good reason to be pleased and even quite proud of his work because he's making a major contribution to providing reliable energy while also helping protect the environment in the region around St. Petersburg: "I think we have to do even more to minimize environmental impact. But things are moving in the right direction: environmental protection is becoming more and more important to the people of Russia." This shift in attitude is also being supported by the government, which has put in place the underlying economic, organizational and legal prerequisites for producing electricity more efficiently and reducing energy consumption.

Reduction in energy consumption **33%**

The power plant's upgraded unit now requires one-third less natural gas to produce the same amount of electricity.

A new generation of engineers

The thing that Kirill Gamburger appreciates most about his job is the teamwork with highly committed fellow employees. Whether for small-scale "hot-section" inspections or major inspections of the turbines in Unit 6, he can always count on his well-qualified coworkers. "We're a great team, because we have some of the world's top experts when it comes to building and servicing leading-edge combined cycle power plants." And the cooperation doesn't stop at Russia's borders: Gamburger, who's been at Siemens since 2009, regularly consults with his colleagues in Berlin and Erlangen, Germany.

The engineers and technicians also communicate frequently with their counterparts at the other Russian power plants that use gas turbines from Siemens. Kirill Gamburger especially enjoys his work at the plant in Kirishi: "There are lots of young people employed in engineering and project management at the Kirishi power plant now. By joining forces, we quickly find solutions – even when looking for answers to difficult and complex questions." Gamburger usually travels from St. Petersburg to Kirishi once a month to meet with the plant's managers and engineers. Telephone conferences are held each week, to keep everyone up-to-date.

Kirill Gamburger has set ambitious goals for his future. Having already earned two engineering degrees, he's now working on a degree in economics at the State Polytechnical University in St. Petersburg – with support from Siemens. "I feel very connected to Siemens. My cousin, who, like me, is an engineer, also works for Siemens in St. Petersburg. At the moment, he's expanding his knowhow during a stint at the head office in Erlangen. Only a company like Siemens offers opportunities like that."

In the Gamburger family, today's generation is reversing the route taken by their ancestors, who emigrated from Germany to Russia around 100 years ago to help build the Trans-Siberian Railway. "That explains our German-sounding name, which is anything but common in Russia," says Gamburger with a grin. "Since it's easier to pronounce a 'g' than an 'h' in Russian, our original name 'Hamburger' got changed to 'Gamburger' at some point." So for Kirill Gamburger, working for Siemens is, in a sense, like closing the circle. ←

WWW.SIEMENS.COM/AR/REPORT-ENERGY

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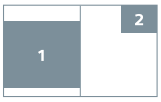


1 – Via long-distance overhead transmission lines, the Kirishi power plant supplies electricity to Russia's entire northwestern region – all the way to Murmansk, which is north of the Arctic Circle.

2 – Kirishi is about 170 kilometers southeast of St. Petersburg. The economy of this heavily wooded area is based on forestry, wood processing and paper production.

"How can we make healthcare accessible to each and every individual?"

Dr. Namrata Gaur – Cardiac surgeon – Gurgaon, New Delhi, India

As a doctor, I want everyone in India to have high-quality healthcare – regardless of their social status, gender or age. At our hospital complex, "Medanta – The Medicity," we're already moving toward this goal: we deliver healthcare at prices that are 20% to 30% lower than those of comparable facilities in India. And, with support from Siemens, we also operate a mobile clinic that my colleagues take to rural areas, performing checkups, providing free treatment and offering local residents healthcare information.

IND | Gurgaon | 28°28'N, 77°1'E | Population: about 1.5 million

Leveraging business opportunities

"How can we make top-quality healthcare affordable?"

Dr. Naresh Trehan – Cardiac surgeon and Chairman of "Medanta – The Medicity" – Gurgaon, New Delhi, India

Many years ago, I started out with a vision: to set up a hospital in India where people would receive world-class care at affordable prices. Today, the patients at Medanta get the best care available in a wide array of specialized areas, from heart surgery to traditional Indian medicine. Our physicians, who are among the most qualified in the country, are also involved in clinical research, training and education. Software solutions and imaging systems from Siemens are helping make outstanding healthcare affordable by ensuring the efficiency of our workflows.

1

1 – Dr. Namrata Gaur in her element: after performing successful cardiac surgery on a baby, she gives the young mother an optimistic prognosis.

Enabling access to healthcare

"I want to help people and enhance their quality of life."

Siemens' healthcare solutions | Medanta – The Medicity

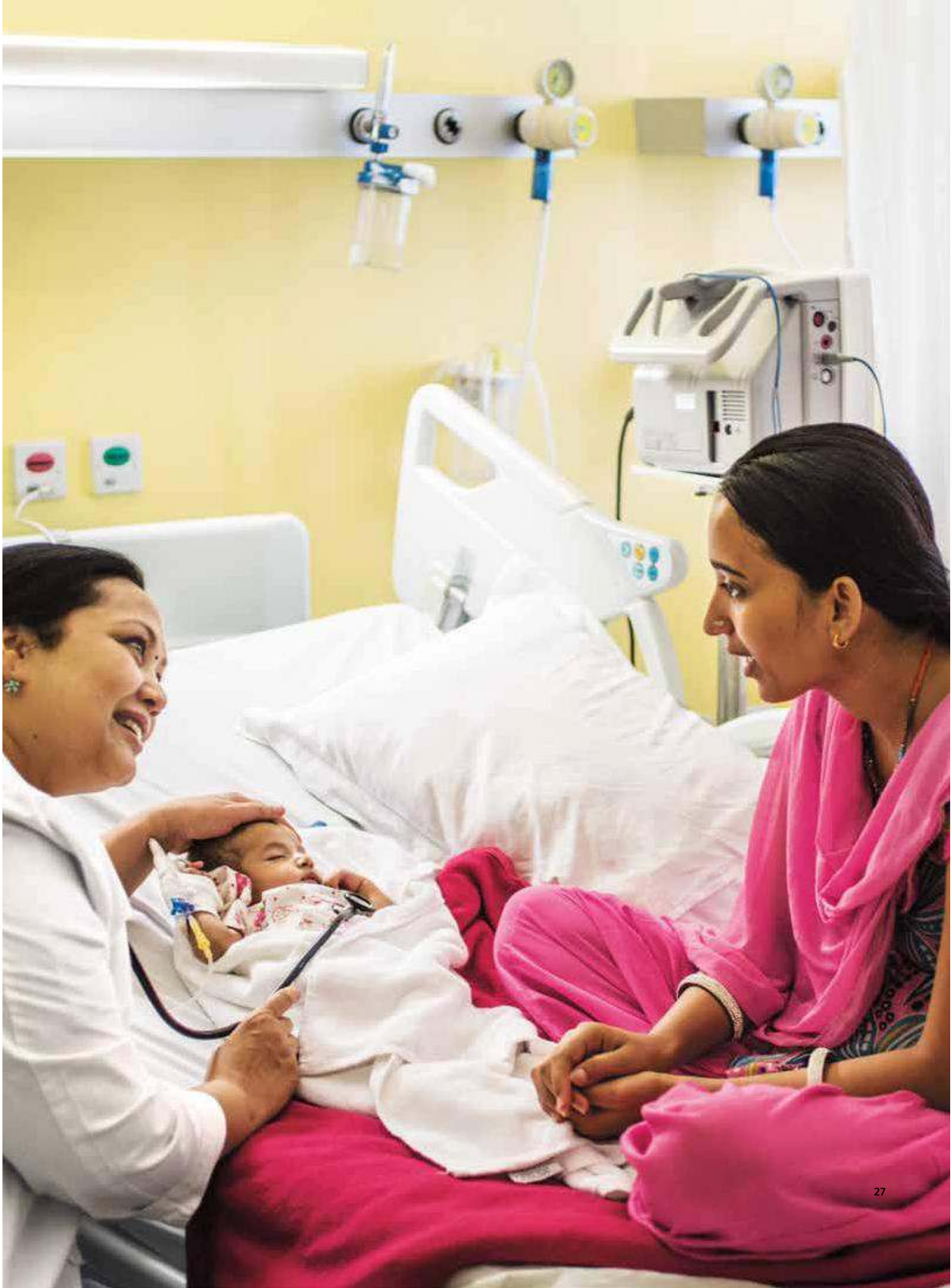
Gurgaon, New Delhi, India

It was during an operation that Dr. Namrata Gaur realized the direction she wanted to take: the aspiring young doctor was so fascinated by the patient's beating heart that she vowed to become a cardiac surgeon. Her father, also a physician, warned her about the tough, predominantly male domain of heart surgery, in which there were only a few hundred female practitioners worldwide. But Dr. Gaur had made up her mind. And to this day, the experienced surgeon is still just as fascinated: "The heart is more than just a muscle; it's home to the emotions, romance and love. Even children know that it's something special. When I operate on the heart, I'm touching the soul of my patients."

Serving many patients from the surrounding countryside

Dr. Namrata Gaur operates on two to three patients a day, six days a week. Heart surgery is one of Medanta's areas of specialization. Each year, some 4,000 cardiac patients receive treatment or undergo surgery at the hospital, which is located in Gurgaon, a booming city of 1.5 million near New Delhi. Opened in 2009, the multi-specialization medical complex boasts a total of more than 20 specialist areas under one roof – from cardiac surgery to oncology.

The founder, Chairman and Managing Director of Medanta is Dr. Gaur's mentor, the Indian cardiac surgeon Dr. Naresh Trehan, who established Medanta with the aim of making world-class healthcare affordable for as many people as possible. Four years after the hospital's inauguration, Dr. Gaur is convinced that this mission is being fulfilled: "Our 1,250 beds, 350 critical-care beds and 45 operating rooms are always full. Many patients come from nearby rural areas or from neighboring countries such as Uzbekistan, Iran, Afghanistan and Pakistan."



SIEMENS
Artis

1 2

1 – Physicians in a Medanta heart catheter lab use a Siemens Artis Zee angiography system to assess the condition of a patient's blood vessels.

2 – All five of Medanta's cardiac catheterization laboratories are equipped with Siemens technology. Our *syngo*.via software enables surgeons and radiologists to view patient images on screen.

Cardiac operations per year | **about 4,000**

Within a few short years, Dr. Naresh Trehan has made his vision of creating "the best hospital between Berlin and Tokyo" a reality.

One of the reasons why Dr. Namrata Gaur is so enthusiastic about working at Medanta is its state-of-the-art technology: "I can access all of a patient's electronic health records from virtually any computer at the hospital, even during an operation. And that facilitates and accelerates decision-making – for the benefit of my patients." Software from Siemens enables all patient data, including images such as X-rays and angiograms, to be stored on a single platform – for all departments at the hospital.

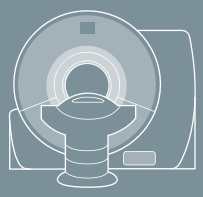
Siemens technology makes work easier

What's more, the imaging data in the electronic health records is supplied by Siemens systems. When it comes to CT, MRI and PET scanners as well as X-ray and ultrasound systems, Medanta relies primarily on high-quality products from Siemens. The committed heart surgeon knows how important that is: "In medical school and during my specialist residency program, I often used Siemens systems. They provide precise results and are both user-friendly and extremely reliable. Now I use them to monitor my work as I operate. Is the heart valve or bypass working, or is there leakage? With a Siemens cardiac sonogram, I can see immediately and take corrective action if necessary." However, technology from Siemens not only promotes positive patient outcomes. "Thanks to the best equipment and digital networks," states hospital head Dr. Naresh Trehan with conviction, "we work very productively, our doctors have more time for their patients, and we can still deliver healthcare at affordable prices." → PAGE 38

Healthcare technology for many specialties under one roof

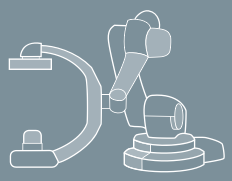
At the multi-specialization Medanta healthcare facility, Siemens has turned the vision of the largely digitized hospital into reality. The chemical development of film, for many years standard practice with X-ray equipment, is a thing of the past at Medanta, as are long rows of patient files. All examination results are stored electronically. Together with their colleagues in other rooms at the hospital and even at other facilities, clinicians can view X-rays and other images on screen. The attending physician and the nursing staff can access each image on a secure drive at virtually every computer[1] in the hospital. The flow of data is particularly efficient because nearly all the hospital's imaging systems are from Siemens and communicate with the system via uniform data formats and interfaces.

1 Prerequisites include: Internet connection to clinical network, DICOM compliance, meeting of minimum hardware requirements and adherence to local data security regulations.



SOMATOM Definition Flash | **1 mSv**

can reduce radiation dose during heart scans to less than one millisievert.

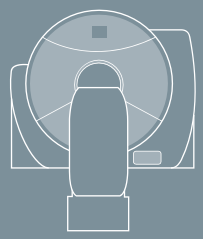


Artis zeego with *syngo* DynaCT Cardiac | **360°**

is an integrated industrial robotic technology that – by enabling a highly flexible rotation around the human body – creates CT-like cross sections from which 3D images can be generated before, during and after therapeutic interventions.

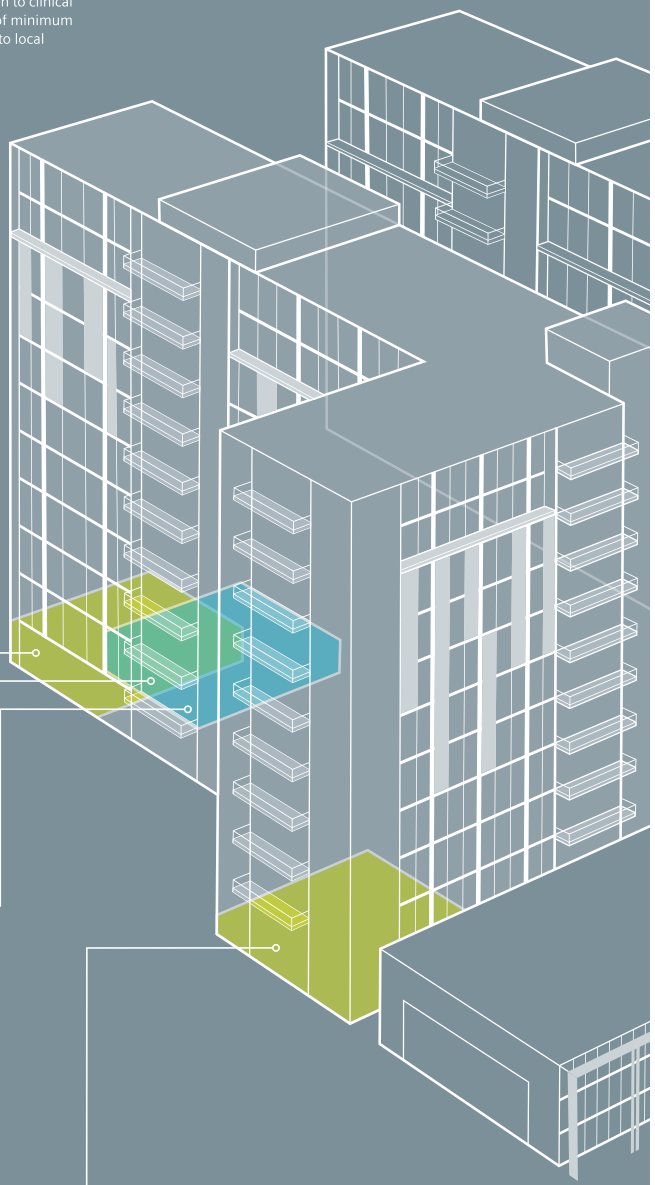
MAGNETOM Espree | **70 cm**

features a 70-centimer inner bore – to increase patient maneuverability and facilitate scans of obese and claustrophobic patients.



Biograph™ mCT | **5 minutes**

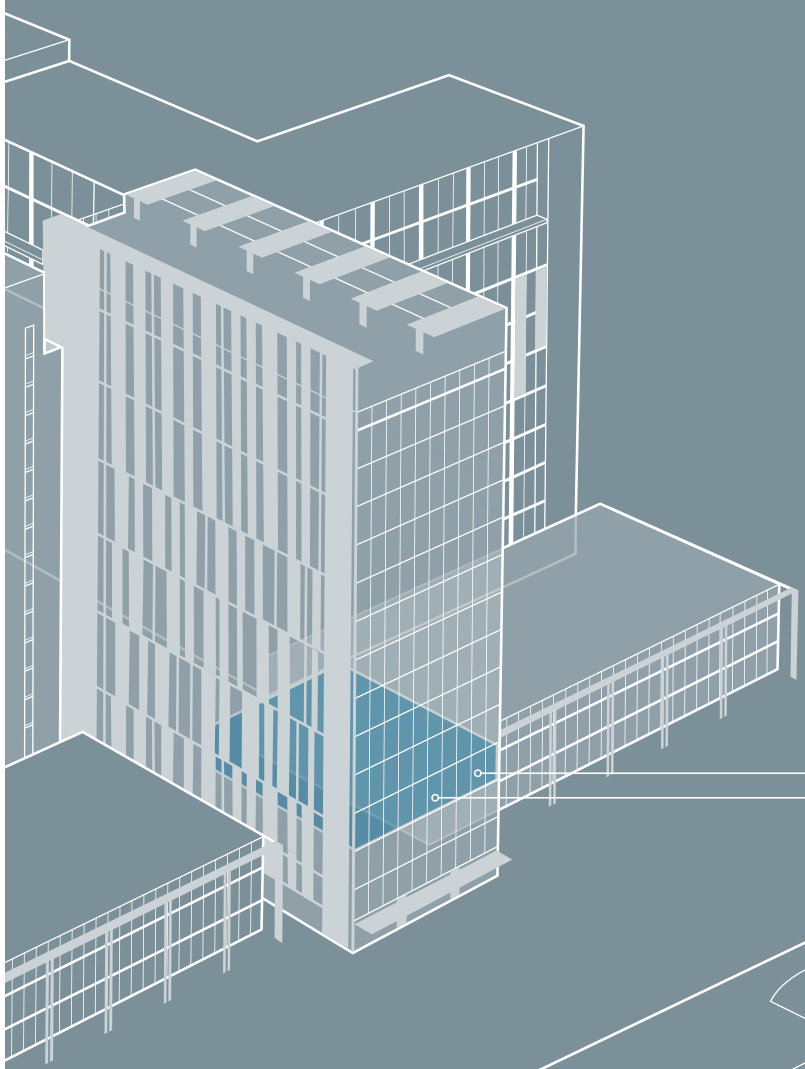
enables whole-body PET-CT scans in only five minutes – for a high level of patient comfort.



syngo.plaza, syngo.dynamics and syngo.via

+ efficiency

enable – as IT systems for radiology, cardiology and other clinical departments – the more efficient and precise reading and archiving of patient images.



Artis Zee with *syngo* DynaCT Cardiac

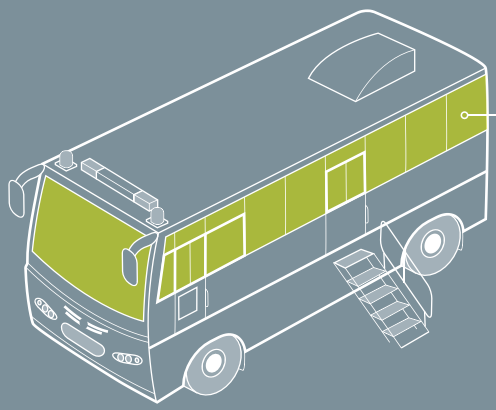
3D images

allows 3D imaging that enhances the precise evaluation and effectiveness of the latest cardiac interventions.

ACUSON SC2000™ Ultrasound System

–15 minutes

uses automated measurement processes to considerably accelerate ultrasound examinations.



Mobile clinic

> 25 buses

are providing basic medical care to people who would otherwise never receive it. Siemens has equipped more than 25 mobile clinics in India with healthcare systems in the last ten years.

"Medanta is devoted to life."

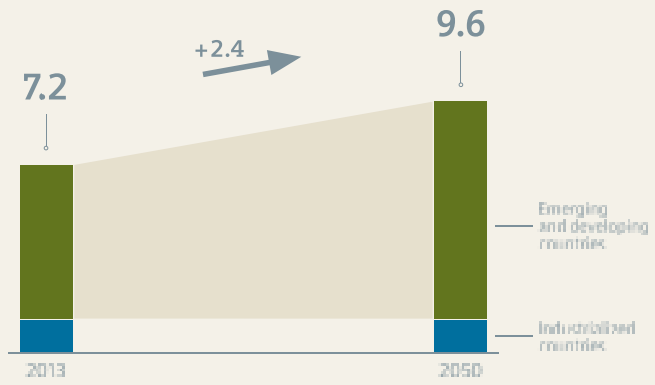
Dr. Naresh Trehan opened "Medanta – The Medicity," a multi-specialization medical complex, in 2009. After working many years as a cardiac surgeon in the U.S., he has been making a major contribution to cardiology in India since the mid-1980s. With Medanta, Dr. Trehan aims to set new standards for the quality of healthcare in India while making medical services more widely accessible.

Dr. Trehan, what is the concept underlying Medanta?

Dr. Naresh Trehan: Medanta offers people in India top-quality medical services – with the most up-to-date technology and a staff of world-leading healthcare professionals. We combine, among other things, traditional Indian herbal medicine with the innovative discoveries of advanced pharmacology. This enables us to provide people with the best healthcare possible – regardless of their social and economic status.

Our answers to the challenges of demographic change

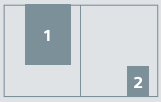
Population growth by 2050 (in billions of people)



Source: United Nations, Department of Economic and Social Affairs, Population Division, 2013

The world's population is booming. Today, our planet is home to 7.2 billion people. According to the United Nations, this number will rise to 9.6 billion by 2050. Most of this growth will occur in the developing countries, where the population will increase from 5.9 billion today to 8.2 billion in 2050. In addition, people are living longer. Average life expectancy worldwide, which is now 69 years for people born between 2005 and 2010, will rise to 76 years for those born between 2045 and 2050. In the more developed countries, average life expectancy will be 83, while people in the emerging countries will live to an average age of 75.

This change poses major challenges for the world's healthcare systems. In the fast-growing emerging and developing countries, the demand for professional, affordable entry-level healthcare solutions is intensifying. In the industrialized countries, population growth will be minimal. However, the progressive aging of the populations in those countries will increase the demand for medical services there, too. For many years, we at Siemens have been working to improve healthcare worldwide – with medical devices, healthcare IT solutions and lab tests. The following pages document the progress we've made in our three key strategic action areas.



1 – Dr. Naresh Trehan has performed more than 50,000 heart operations in the course of his professional life. He conveys his knowledge and extensive experience to colleagues at his own hospital, Medanta.

2 – Medanta is located about 20 kilometers from New Delhi's international airport – another reason for its attractiveness to patients from all across India and outside the country.

Faster, more accurate diagnosis reduces the risk of life-threatening illness

Number of patients treated worldwide using Siemens medical devices and lab tests[1]

90 million treated patients — Target 2014

86 million treated patients — Current situation 2013

70 million treated patients — Starting point 2010

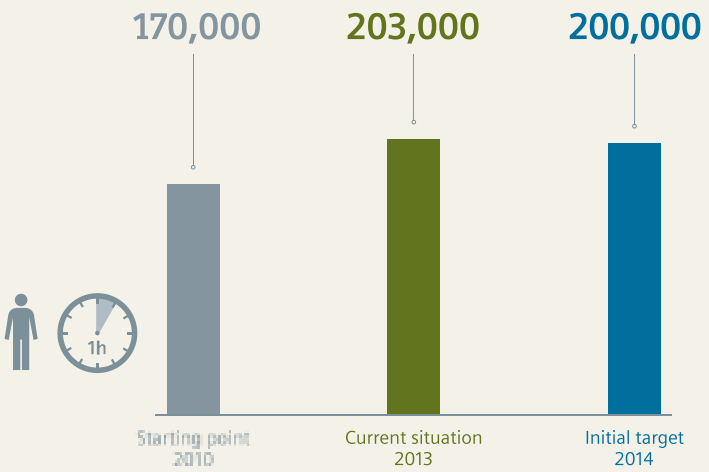
1 Based on the installed base of the Siemens products and solutions used to diagnose and treat heart attack, stroke, HIV/AIDS, tuberculosis, breast cancer and lung cancer, taking into account only those product categories included in the recommendations of the relevant medical societies

According to World Health Organization (WHO) statistics for the year 2011, about 30% of all deaths due to illness are caused by cardiovascular diseases, 15% by cancer and 15% by infection. Medical products and solutions from Siemens are helping drive the fight against these life-threatening illnesses. In 2013, for instance, our healthcare devices and lab tests were used to examine or treat more than 86 million victims of heart attack, stroke, breast cancer, lung cancer, HIV/AIDS or tuberculosis. In 2014, we aim to help treat more than 90 million people worldwide.

Our commitment is particularly clear in the area of HIV/AIDS. Africa accounts for about 60% of the world's HIV sufferers: about 22.5 million of the continent's inhabitants are currently infected with the immunodeficiency virus. For rapid, effective therapy, early testing is vital. And this is where Siemens comes in. In Africa, we've equipped 18 laboratories in ten countries with lab tests and conducted more than 350,000 examinations. Attending physicians use the results to select and administer drug combinations tailored to each patient. This example – just one of many – highlights the major role that our clinical diagnostic tests are playing in the battle against the world's most dangerous diseases.

High-quality healthcare services must remain affordable

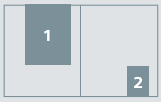
Number of patients treated every hour worldwide using Siemens medical devices and lab tests[1]



1 Based on the installed base of Siemens imaging products and their typical utilization. We've also taken into account the number of in-vitro tests worldwide, divided by the average number of tests per patient.

In 2013, more than 203,000 patients worldwide were treated or examined every hour using Siemens medical devices and lab tests. As a result, we met the target we'd set for ourselves in 2010 a year earlier than planned. This achievement both confirms our success and motivates us to further improve the quality and productivity of healthcare services and enable even more patients to benefit from our technologies in 2014.

A substantial proportion of healthcare expenditure worldwide is currently wasted due to inefficiency. By providing efficient products and solutions, we're making a key contribution to ensuring that medical examinations remain widely available despite rising cost pressures.



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Medical imaging for everyone – from basic care to highly specialized diagnostics

Patients in emerging countries with access to Siemens imaging systems[1]

1 billion — Target 2014

970 million — Current situation 2013

760 million — Starting point 2010

1 Based on the installed base of Siemens CTs in 113 emerging countries (< 0.785 in the UN Human Development Index of 2010). We've derived the number of inhabitants per CT from a calculation of CT density in selected countries.

In 2013, more than 970 million patients in emerging countries had access to Siemens imaging systems. But we're still not satisfied: by 2014, we want to increase this figure to more than one billion. Our aim is to boost the utilization rates of existing X-ray systems and CT/MRT scanners and improve basic healthcare services by providing robust low-cost medical technologies like our Multix Select DR digital X-ray system and our SOMATOM Spirit CT scanner.

How would you assess Medanta's development today, four years after its inauguration?

Dr. Naresh Trehan: Medanta's development has been outstanding in every respect. We've increased the number of beds from 400 to nearly 1,500. Our technical equipment ranges from the most advanced X-ray systems to innovative linear accelerator technology for cancer treatment. As a result, our healthcare offerings are now at the highest level. But we're still working to continuously improve.

You want to offer outstanding medical services and, at the same time, provide more people with access to affordable healthcare. Isn't that a contradiction?

Dr. Naresh Trehan: In the U.S., a coronary artery bypass operation costs about US$40,000. In Europe, the figure is around US$25,000. At Medanta, the same operation costs less than US$4,000. We can provide the operation at that price because labor costs in India are lower and because we work much more productively than our colleagues in the West. In India, heart surgeons perform an average of more than 600 operations a year – in some cases, up to six times the number performed by their counterparts in other countries. Our advanced medical technology solutions from Siemens and our optimized IT infrastructure are further key factors.

What are the challenges facing healthcare in India?

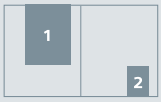
Dr. Naresh Trehan: Our situation – like so many others in India – is paradoxical. On the one hand, we have outstanding hospitals that attract large numbers of patients from abroad. India has taken a leading position here, and I'm naturally very pleased about that. But on the other hand, even though our services cost only about a tenth or a twentieth of what they do in the West, they're still not affordable for the majority of India's people – particularly those in rural areas.

What are you doing to master this challenge?

Dr. Naresh Trehan: At Medanta, we've made world-class medical treatment affordable for more people. And we've launched The Healthy and Educated Village Program to foster healthcare and medical expertise outside the cities. We're training personnel to provide medical treatment and education in villages, and we operate a mobile clinic to serve rural areas. Siemens has provided us with cancer diagnostic equipment. We use it to examine people in rural areas free of charge and refer them, when necessary, to local hospitals. In my opinion, access to medical services in India has improved considerably in the last five years. I'm confident that, within the next ten years, we'll be providing up to 50% more patients with access to high-quality healthcare.

Why did you decide to partner with Siemens?

Dr. Naresh Trehan: I have a high regard for the quality of the company's medical systems and its services. It's unbeatable. We're 100% certain that Siemens products won't let us down. I also have a high regard for the company's character. When Siemens wants to sell us something, they send one person. But when it's a question of providing services, they send us four. And I appreciate that very much. In addition, the company gives us opportunities to cooperate in joint research projects in order to develop technologies that meet our requirements – also in terms of cost.



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1

1 – A Bodhi tree adorns the hospital's foyer. Patients and family members of all religions tie red ribbons to the tree, a Buddhist symbol of wisdom and life, and pray for health – their own and that of their relatives.

Dr. Namrata Gaur | **Cardiac surgeon**

"We want to treat every patient with the same degree of care, compassion and commitment."

Dr. Namrata Gaur is full of enthusiasm for her challenging profession, although she continually faces new challenges. One of her major concerns is the growing number of cardiovascular patients: "The incidence of coronary artery disease is increasing sharply, and our patients are getting younger all the time. Not long ago, for example, we operated on a girl of only 14. One contributing factor is a genetic predisposition in the Indian population, another is the changing lifestyle. In the cities, in particular, there's more stress, people are smoking more, eating less healthy foods and paying less attention to their health in general." As a result, India will have to expand its capacity for treating cardiovascular disease in the years ahead. Despite growing prosperity, there are still huge social disparities in the country, and relatively few people can afford health insurance. The challenge is to give people in India access to high-quality healthcare – regardless of their income and their status. For Dr. Gaur, Medanta is on the right track: "We're providing high-quality care for our patients at a cost that is about 20% to 30% lower than at comparable hospitals. What's more, the disadvantaged receive treatment at reduced cost or even free of change, no matter what their gender or religion."

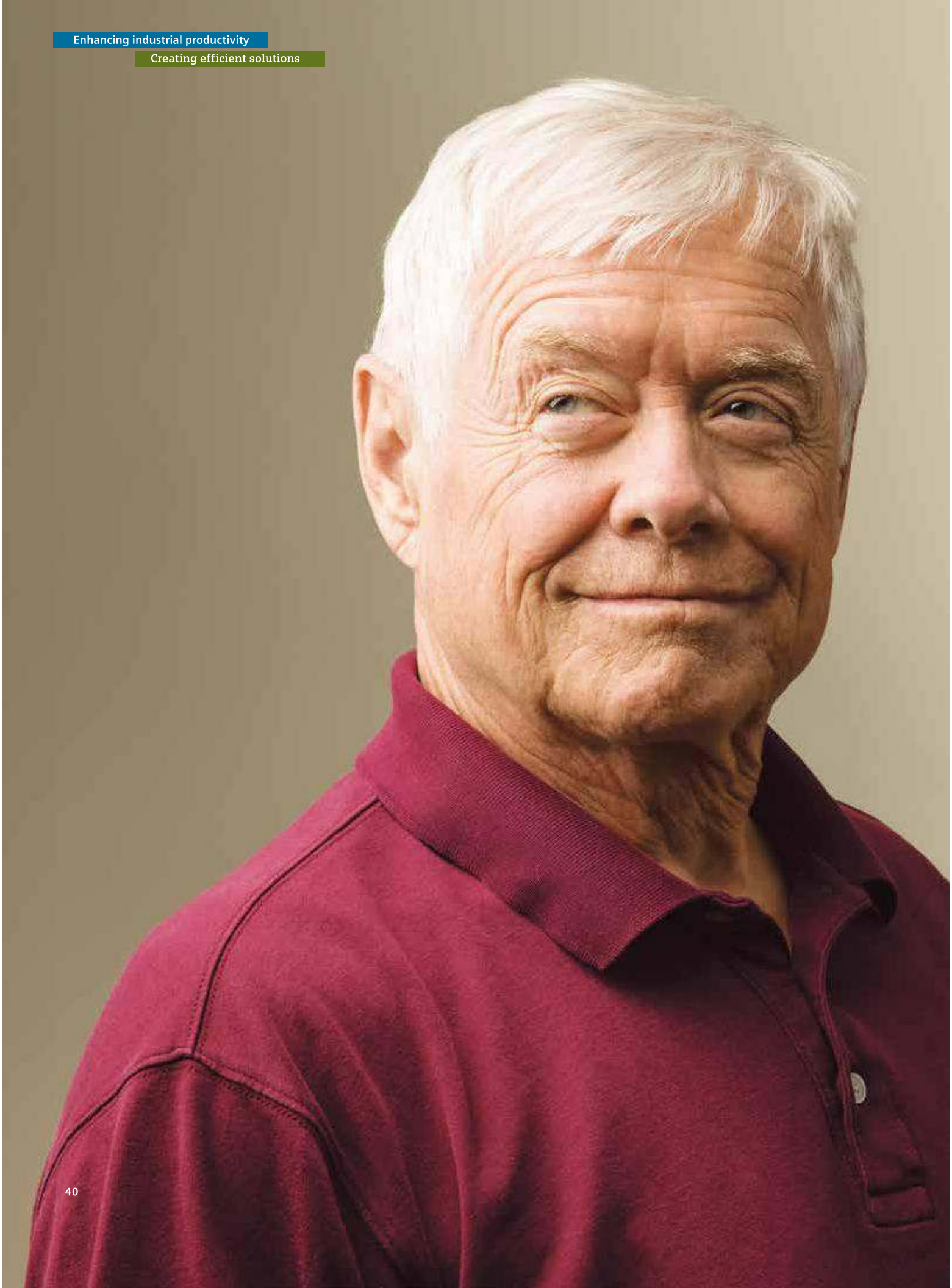
A fulfilling profession that entails making sacrifices

The fact that not only the wealthy benefit from her work as a heart surgeon gives Dr. Gaur the strength she needs to do her job: "My father was a doctor, and I saw how his patients respected him for his compassion and commitment. From him, I learned that nothing is more rewarding than helping people, relieving their pain and enhancing their quality of life." And the very popular doctor needs a lot of strength. At Medanta, there are many sick people waiting for help, and twelve-hour days and six-day work weeks are the norm in cardiac surgery.

Nevertheless, in addition to working in the operating room and intensive care unit, Dr. Gaur is also committed to training physicians and nurses: "During training, I also convey the idea that we need to do more to promote the health of women and children in India." That's why she's so excited about a project being undertaken jointly by Medanta and Siemens: "In the rural areas of India, many people are poor, and the next good hospital is often very far away. Our doctors travel from village to village with a mobile clinic equipped with devices and systems from Siemens, examining and treating patients free of charge and educating the rural population about health issues." Dr. Namrata Gaur now combines in her work everything she intended from the start: medical professionalism, personal compassion and social responsibility. ←

WWW.SIEMENS.COM/AR/REPORT-HEALTHCARE
WWW.SIEMENS.COM/AR/REPORT-HEALTHCARE-MOVIE

The statements by Siemens' customers described herein are based on results that were achieved in the customer's unique setting. Since there is no "typical" hospital and many variables exist (e.g., hospital size, case mix, level of IT adoption) there can be no guarantee that other customers will achieve the same results.



"How can I enjoy life to the fullest once again?"

Gordon France – Ice hockey player and artist – York Harbor, Maine, U.S.

Sports and painting are my great passions – even today at the age of 76. I've played ice hockey with my friends ever since I was a kid. I also enjoy traveling with my wife and painting landscapes. But a few years ago, disease nearly put a stop to all that. Intense pain in my knees was making it harder and harder to get around. Then I decided to get knee replacements. The operations gave me back my mobility and put an end to the pain. Now I'm back in the middle of things.

USA | York Harbor, Maine | 43°8'N, 70°38'E | Population: about 3,000

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in

Case No(s). 15-0801-GA-AGG

Summary: Application Application of Siemens Industry, Inc. for certification as a competitive retail natural gas broker electronically filed by Ms. Diana Jeschke on behalf of Siemens Industry, Inc.