



Engineering  
*GREAT* Solutions

# IMI STI

Total Capability  
in Valve Actuation



# Engineering Great Solutions for Over 50 Years



Since its foundation in 1960, IMI STI has focused on the design, development and production of complete actuation systems for the operation of industrial valves in the most demanding applications and processes across the world.

IMI STI is now an international leader in valve actuation. We design and manufacture complete actuation systems, which can be fully customised to meet customer needs, applications or processes. We offer a diverse range of valve actuation products including linear and quarter turn actuators, smart and traditional positioners, and a full range of accessories.

*Quarter-turn range ideal for critical ball and butterfly valve applications*



Project: Punta Sayago LNG

*Smooth and precise valve operation without any maintenance for the whole operating life*



Project: Yamal LNG

# Total Capability in Valve Actuation

Our actuators are designed to drive control valves in the most demanding applications such as turbine bypass in power plants and anti-surge valves in LNG industries (LNG ships and LNG liquefaction plants).

Fast stroking, repeatability and reliability are a must and our actuators are known for their superior performance. This results in LNG trains running optimally, providing operators with maximum output.

IMI STI's vast experience and know-how has been used to develop a range of quarter-turn hydraulic and pneumatic actuators.

Advanced software and diagnostic capabilities ensure our actuators are tailored to your plant's specific requirements.



*Driving valves in the most demanding applications across the globe*

## Critical applications

### Power

Our fast-stroking, highly-reliable actuators have been recognised for providing superior performance in severe service applications for over 50 years. Key applications include turbine bypass systems, steam damper heating, boiler level control (including nuclear), pump recirculation, emergency shut down, line isolation and dampers for fans.

### Oil and gas

In the oil and gas industries we provide compressor anti-surge (primarily hot gas bypass), choke valves, gas to flare and dampers for fans.

Our range of quarter-turn actuators operate ball and butterfly valves in FPSO applications and in petrochemical.

### LNG

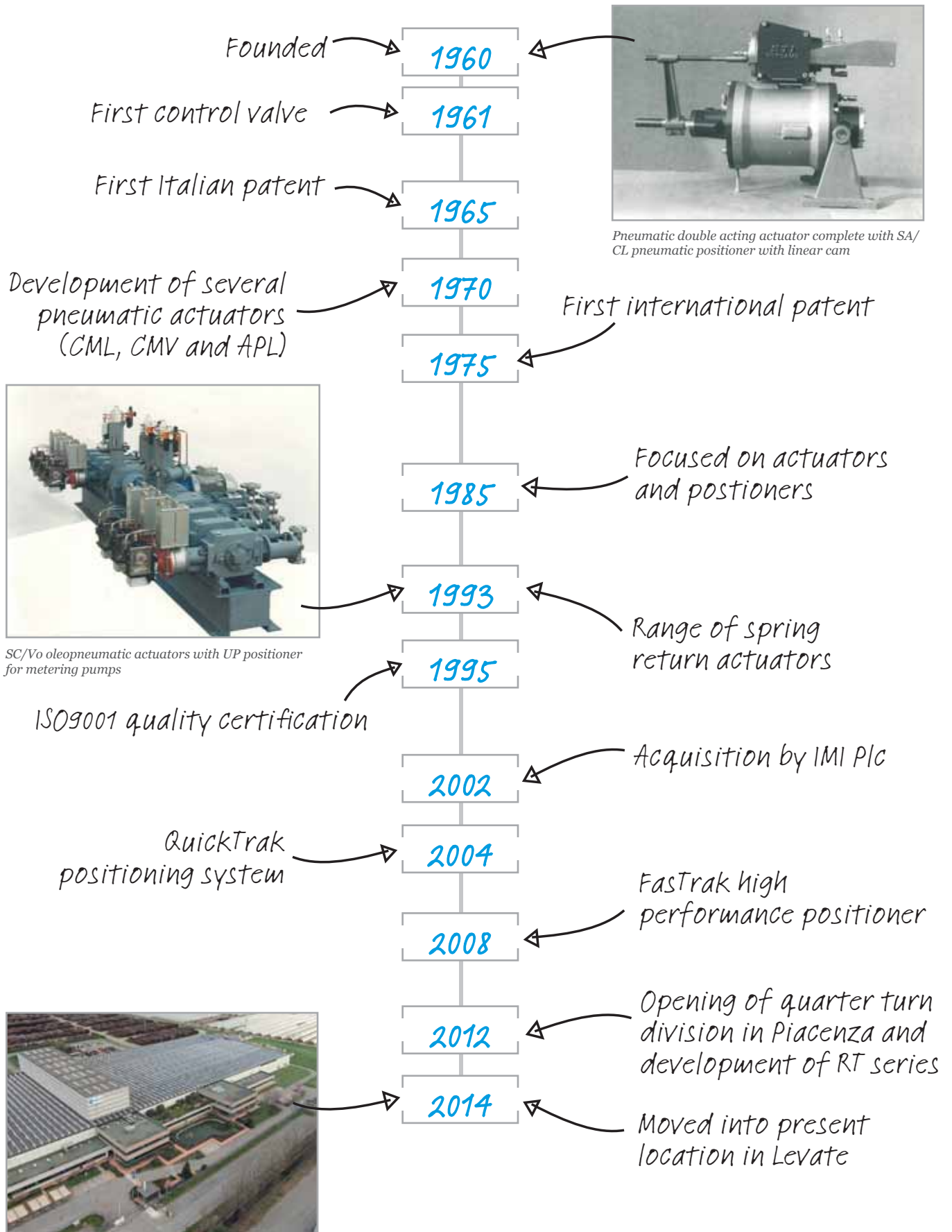
Most compressor anti-surge valves in LNG plants worldwide are fitted with an IMI STI actuation control system, maintaining plant up-time and operational efficiency.

In 4 years we have supplied more than 400 actuators for large compressor anti-surge valves.



*Bleed Steam Valve solution completed for power plant in Poland*

# Company history



Our current facility in Levate

The story continues...

## Product Categories

### SC Series

#### Linear actuators



The SC series of actuators are provided with a built-in permanent lubrication system, patented by IMI STI, which assures an extremely smooth valve operation even if dry instrument air is used. Thanks to this lubrication system, which is common to all IMI STI actuators, no maintenance of moving parts is required, even after many years of continuous service.



#### SC

SC is a complete line of linear pneumatic actuators purposely designed and manufactured for the operation of flow control devices such as dampers, louvers, butterfly and ball valves. Thanks to their design, they are perfectly suited to applications on power plants, refineries, pipe steel works and on board vessels.

The SC actuator provides excellent response times without the use of a booster. A high speed design is also available.



#### SC/V

SC/V pneumatic linear piston actuators are designed to drive control valves for the most demanding applications of power, and oil and gas industries. This includes turbine bypass, steam conditioning valves, desuperheaters, compressor anti-surge valves and many others.

### RT Series

#### Quarter-turn actuators



Our RT series offers a complete range of pneumatic and hydraulic quarter-turn single/double acting actuators, suitable for the operation of quarter turn valves (ball valves, butterfly valves and plug valves) for on-off and modulating heavy-duty service.

The actuator is made up of a waterproof scotch yoke mechanism transforming the linear movement of the pneumatic cylinder (on closing or opening) into the rotary movement, necessary for valve operation.



#### RTC & RTQ

The RTC & RTQ single/double acting pneumatic low-pressure actuators are housed in carbon steel material without any cast/grey/ductile iron or aluminum parts.

Totally sealed, weatherproof housing provides complete protection for all moving parts.

Scotch yoke mechanism is available in both canted or symmetrical options for ideal torque distribution.

The actuator's angular stroke is adjustable between  $-4^{\circ}/+4^{\circ}$  at both ends by means of the external stainless steel mechanical stops arranged into the side-wall of the mechanism's body and into the end flange of the pneumatic cylinder.

The RTC Compact Actuators are designed to provide high torque with minimum space and weight.

The optional spring package is installed inside the cylinder.

The RTQ High Torque Actuators are designed with interchangeable power and spring modules for easy and quick reversal of the fail-safe mode without any safety issues.

The optional spring package is designed with inherently safe design which ensures proper and high efficiency functionality and safe maintenance, preventing any accidental hazards due to corrosion of fasteners.



#### RTCH & RTQH

The RTCH & RTQH single/double acting hydraulic high-pressure actuators are housed in carbon steel material without any cast/grey/ductile iron or aluminum parts.

Totally sealed weatherproof housing provides complete protection for all moving parts.

Stainless steel travel stops allow for fine adjustments of the angular stroke between  $82^{\circ}$  and  $98^{\circ}$ .

The RTCH Compact Actuators are designed to provide high torque with minimum space and weight.

For spring return, the hydraulic cylinder is installed inside the spring with a single gasket for easy maintenance and no external tie rods.

The RTQH High Torque Actuators are designed with interchangeable power and spring modules for easy and quick reversal of the fail-safe mode without any safety issues.

The cylinder design allows for easy on-site replacement of all hydraulic seals.

## CM Series

### Enclosed actuators



This pneumatic actuator system is composed of an actuator (SC) and a manual override integrated into a steel housing which also works as a carrying structure. CM series is able to control final elements like dampers, butterfly valves, speed variators, radial vanes and hydraulic converters. Thanks to various models, it can provide different ranges of torque to meet most applications.



#### CML

The CML actuator provides small to medium torque (up to 1000 N) for angular control.



#### CMV

The CMV actuator is able to control final elements of modern power stations using high power actuators to develop torque up to 41000 N.

## PT Series

### Positioners



The PT series includes a wide range of positioners including pneumatic or electro-pneumatic, smart (very high flow rate) or 'traditional type' positioners.



#### DT - DigitalTrak

DigitalTrak is a smart positioner and is a loop powered instrument. This item is widely used in petroleum, chemical, electric power, metallurgy, light industry and other fields of automation systems to aid the control of pneumatic valve sets.



#### FT - FasTrak

FasTrak is a smart positioner and it has a high-capacity, high-precision digital-pneumatic valve controller that replaces a conventional positioner. It has excellent dynamic performance and high flow ( $C_v = 2$ ).



#### Other Products

- > ST - SmarTrak
- > CRP-3M & CRP-3/M-EP
- > DE/3M-3 & DE/3M-3-EP
- > SA/CL & SA/CL-EP
- > SA-1 & SA-1-EP
- > SR/CCK
- > UP & UP-EP

## AC Series

### Accessories



A full range of accessories and control systems are available, designed and manufactured to meet the most demanding of customer specifications. Our accessories are designed with a manifold mounting system to save space and costs. It is a special IMI STI application whereby fittings or nipples are not necessary. This is due to the connection being achieved using machined connection faces with a sealing o'ring. This system saves assembly time, reduces inventory and cost on items such as fittings, and saves space due to the reduced dimensions.



#### Products

- > AL - Air-lock
- > AV - Volume booster
- > BD - Derivative booster
- > BV - Big volume booster
- > BW - Ultra high capacity booster
- > CF - Fast commutator
- > CO - 3-way valve
- > CS - Quick exhaust
- > GR - Manual override
- > MC - Motion converter
- > SAR - Snap acting relay
- > SL - Silencer
- > SR - Quick exhaust valve
- > TP - Pressure switch
- > TR - Electric position transmitter and limit switches
- > UD - Derivative unit

For more information  
request dedicated  
product brochures or visit  
[www.imi-critical.com](http://www.imi-critical.com)

## Key capabilities

Our know-how in actuator development and our commitment to continuous improvement in the areas of performance and reliability not only ensures that the most up-to-date technologies and materials are used (our actuators and accessories are designed, engineered, assembled and tested in Italy), but also that our clients can count on a reduction in their long term operational costs, thanks to the long and trouble-free life of our products.

### Engineering and R&D

Our extensive expertise in actuator design fully utilises the opportunities for innovative and competitive engineering solutions whilst ensuring compliance with all relevant standards.

IMI STI regularly reviews its product lines and surveys customer requirements and specifications to ensure effective additions to, and strengthening of its products range.

The Research and Development department controls a suite of test facilities which include a laboratory, where our engineers develop new patents.

Continuous investment in computerised systems, integrated machining centres, test benches and computer controlled state of the art machine tools, ensure the highest level of component quality and repeatability in line with our policy of maintaining IMI STI as a manufacturing centre of excellence.



*Our state-of-the-art R&D department*

### Aftermarket

IMI STI actuators and accessories are installed in demanding applications therefore it is crucial to keep them operating at peak performance levels.

IMI STI provides a wide range of aftermarket support services, from web-based spare parts availability to express delivery of components. A team of qualified engineers is available for customer support, including on-site, commissioning, troubleshooting and maintenance activities.

Most of IMI STI actuators are equipped with a diagnostic communication tool to deliver plant operators with information about optimal equipment performance and to ensure compliance to safety and regulatory requirements.

- > **Fast delivery of spare parts**, 24 hour shipment service (10,000 parts at our workshop to minimise stand-by)
- > **Field service on site** for spare parts installation and upgrade
- > **Maintenance service on site** for regular maintenance of our actuator and accessories
- > **Remote customer care** telephone assistance during start-up, commissioning or normal operation
- > **Spare parts service** to guarantee original spare parts and assured, immediate compatibility
- > **Training on site** for better calibration and knowledge of our system
- > **Upgrade service** to identify the best new solution available for your system



*We're dedicated to excellent aftermarket service*



## Quality

In a quality driven market, IMI STI's engineering is world famous as can be proven by the large quantity of actuators installed in critical applications across the globe. Our extensive expertise in actuator design allows us to produce world-leading solutions whilst ensuring compliance with all relevant standards.

IMI STI is committed to continuous improvement in safety, environment and quality performance in each business area. Quality management is a fundamental must for the whole production process and for the provision of the best possible customer service. Market requirements are in a state of constant evolution and customers' quality needs are met and exceeded by our complete, adaptable business processes from your initial order to the final delivery.

### Certificates

As a result of our commitment to a continuous quality improvement, IMI STI has obtained the certificates of conformity to the following standards:

System			
ISO 9001	International	 	
PED module H & H1	International		
ATEX	International		
IECEX	International		
Products		 	
IECEX	International		
SIL	International	 	
ATEX	Europe		
PED	Europe		
TR CU	Russia / Kazakhstan / Belarus	 	
ULc	USA / Canada		
CSA us	USE / Canada		
INMETRO	Brazil		
SANS	South Africa		
KOSHA	Korea		

# Our global reach

For more than 50 years, our business has been synonymous with innovation and performance in the severe service valve and controls industry. As part of IMI Critical Engineering we have manufacturing operations in 19 countries and support our customers on the ground via local manufacturing facilities and our global service network, which includes 250 dedicated aftermarket specialists.



## Europe

- |   |   |   |
|---|---|---|
| <b>1</b><br><b>IMI Critical Engineering HQ</b><br>Birmingham, UK        | <b>6</b><br><b>IMI CCI Manchester</b><br>Manchester<br>UK           | <b>11</b><br><b>IMI Remosa</b><br>Cagliari<br>Italy         |
| <b>2</b><br><b>IMI Bopp &amp; Reuther Mannheim</b><br>Mannheim, Germany | <b>7</b><br><b>IMI CCI Milan</b><br>Milan<br>Italy                  | <b>12</b><br><b>IMI SSF</b><br>Chesterfield<br>UK           |
| <b>3</b><br><b>IMI CCI Aberdeen</b><br>Aberdeen<br>UK                   | <b>8</b><br><b>IMI CCI Sweden</b><br>Säffle<br>Sweden               | <b>13</b><br><b>IMI STI</b><br>Levate<br>Italy              |
| <b>4</b><br><b>IMI CCI Austria</b><br>Vienna<br>Austria                 | <b>9</b><br><b>IMI CCI Switzerland</b><br>Balterswil<br>Switzerland | <b>14</b><br><b>IMI Th Jansen</b><br>St. Ingbert<br>Germany |
| <b>5</b><br><b>IMI CCI Brno</b><br>Šlapanice<br>Czech Republic          | <b>10</b><br><b>IMI Orton</b><br>Piacenza<br>Italy                  | <b>15</b><br><b>IMI Truflo Marine</b><br>Birmingham<br>UK   |

## Asia

- |   |   |  |
|---|---|--|
| <b>16</b><br><b>IMI Truflo Rona Belgium</b><br>Herstal<br>Belgium | <b>20</b><br><b>IMI Critical Engineering China</b><br>Shanghai, China | <b>25</b><br><b>IMI CCI Malaysia</b><br>Kuala Lumpur<br>Malaysia |
| <b>17</b><br><b>IMI Truflo Rona Italy</b><br>San Nicolo<br>Italy  | <b>21</b><br><b>IMI CCI Bangalore</b><br>Karnataka<br>India           | <b>26</b><br><b>IMI CCI Middle East</b><br>Dubai<br>UAE          |
| <b>18</b><br><b>IMI Z&amp;J Germany</b><br>Düren<br>Germany       | <b>22</b><br><b>IMI CCI China</b><br>Shanghai<br>China                | <b>27</b><br><b>IMI CCI Singapore</b><br>Singapore               |
| <b>19</b><br><b>IMI Zikesch Wesel</b><br>Wesel, Germany           | <b>23</b><br><b>IMI CCI Japan</b><br>Kobe<br>Japan                    | <b>28</b><br><b>IMI CCI SriCity</b><br>Andhra Pradesh<br>India   |
|   | <b>24</b><br><b>IMI CCI Korea</b><br>Paju<br>Korea                    |  |



### North America

**29**  
**IMI Critical Engineering Houston**  
 Texas, USA

**30**  
**IMI CCI Houston**  
 Texas, USA

**31**  
**IMI CCI RSM**  
 California  
 USA

**32**  
**IMI Fluid Kinetics**  
 Kansas  
 USA

**33**  
**IMI NH**  
 Ontario  
 Canada

**34**  
**IMI Z&J Houston**  
 Texas  
 USA

### South America

**35**  
**IMI CCI Brazil**  
 Sao Paulo  
 Brazil

**36**  
**IMI InterAtiva**  
 Sorocaba  
 Brazil

### Africa

**37**  
**IMI CCI South Africa**  
 Witbank  
 South Africa

### Russia

**38**  
**IMI Critical Engineering Russia**  
 Moscow  
 Russia

### Australia

**39**  
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 Victoria  
 Australia

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