

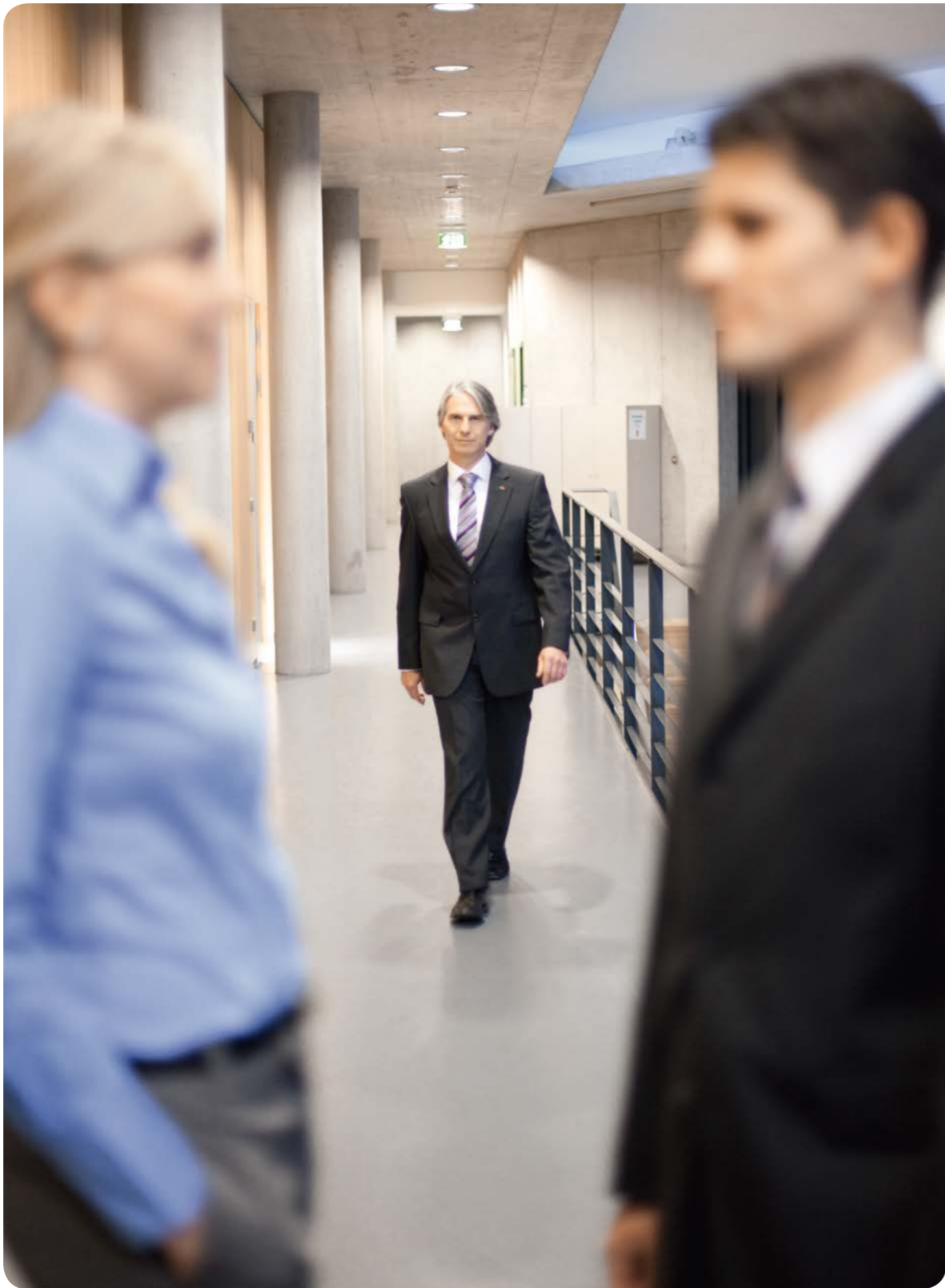


MTU ValueCare

Customer Training Program  
Friedrichshafen, Germany



mtu ValueCare



# Contents

**I A CUSTOMER-ORIENTED  
TECHNOLOGICAL LEADER**

**II TRAINING**

8 Engine training courses

10 Electronic training courses

**III TRAINING CENTERS**

14 External training center

**IV YOU'VE MADE A POWERFUL  
INVESTMENT. PROTECT IT WITH  
MTU VALUECARE.**

21 MTU ValueCare

**V LOCAL SUPPORT. WORLDWIDE.**

22 Service Network

# A customer-oriented technological leader.

MTU supplies its customers with technologically-advanced products that are proven in the field. MTU's range of products and services for off-highway applications is extensive and includes both standard and customized solutions.



## 1 Technological leader

As a supplier of high-quality performance drive solutions, MTU stands for the highest level of technological expertise.

## 2 Passion

MTU is passionate about fulfilling the needs of its customers with the utmost professionalism and precision.

## 3 Partnership

MTU is a reliable and trend-setting partner that acts with foresight in a results-oriented manner.

MTU is the core brand of Rolls-Royce Power Systems AG, which is a world-leading provider of high- and medium-speed diesel and gas engines, complete drive systems and distributed energy systems for the most demanding requirements.

The product range of MTU is one of the widest and most modern in the sector. We offer comprehensive, powerful and reliable engine solutions for yachts, commercial ships and naval vessels, construction and industrial vehicles, agricultural machinery, mining, rail and military vehicles as well as for the oil and gas industry. We also provide a full line of service products to help you maximize uptime and performance.

For over 100 years, MTU has been known for cutting-edge innovation and technological leadership. That same spirit of innovation inspires our sustainability efforts. Today and in the future, our focus is on developing and implementing system solutions to maximize efficiency and meet emissions standards.

### An expert in technology.

MTU has always set standards in technological expertise for customized product and system solutions. To deliver you maximum power density, we concentrate our innovation on the continuous advancement of our core competencies: turbo charging and electronics.

### A passionate engine specialist.

We spend every day working together with you, our customers, to deliver engines and systems that best fit your needs. Whether a standard system or a customized solution—we are passionate about the art of engine creation.

### A reliable partner.

We understand the specific demands for diverse applications. In collaboration with you, we look for the solutions which are best suited to your individual requirements. Every step of the way—from the start of project planning, during the design of your integrated system solution, at the point of delivery and commissioning and continuing through the care of your product—we are there with you for the entire lifecycle.

Training

## Learn from the best.

Whether you're learning how to operate your MTU equipment effectively or developing your own on-site maintenance capabilities, only MTU has the experience and expertise to set you up for success.

Training is a great way to become proficient with MTU engines and systems and get maximum efficiency from your equipment. From preventive maintenance to diagnostics and repair, our training programs provide a hands-on learning experience with knowledgeable, expert trainers. We offer a wide range of customized training programs to maximize your return on investment.



1 MTU Training Center in Friedrichshafen, Germany, Plant 1.

2 We conduct courses in our MTU Training Centers. Courses also may be held on-site at your facility.

# Engine training courses

MTU offers a wide range of training courses, taught by experienced professionals who know MTU engines inside and out.

## CM1

**Target trainees**  
Operators

**Prerequisites**

- Technical understanding
- Knowledge of course language

**Course objectives**  
The trainee learns:

- Engine design and function
- How to operate the engine and related systems
- How to identify and rectify minor faults
- How to perform preventive maintenance tasks per MTU Instructions

**Curriculum**

- Handling of documentation
- Design and function of the engine
- Explanation of oil and fuel, systems, etc.
- Explanation of the fluids and lubricants specification
- Basic troubleshooting
- Preventive maintenance tasks QL1
- Introduction to the engine management system

**Duration**  
See page 9

**Schedule**  
To be agreed upon

**No. of participants**  
Max. 8 persons

**Location**  
MTU Training Center – Friedrichsafen

**Course language**  
To be agreed upon

**Training time**  
8:00 am to 4:00 pm

## CM2

**Target trainees**  
Maintenance staff

**Prerequisites**

- Good knowledge of diesel engine
- Knowledge of course language

**Course objectives**  
The trainee learns:

- Engine design and function
- How to operate the engine and related systems
- How to identify and rectify minor faults
- How to perform corrective maintenance tasks per MTU Instructions
- How to exchange subassemblies

**Curriculum**

- Curriculum of course CM1
- Exchange of the subassemblies QL2

**Duration**  
See page 9

**Schedule**  
To be agreed upon

**No. of participants**  
Max. 8 persons

**Location**  
MTU Training Center – Friedrichsafen

**Course language**  
To be agreed upon

**Training time**  
8:00 am to 4:00 pm

## CMO

**Target trainees**  
Operators on site

**Prerequisites**

- Technical understanding
- A room for the theoretical training with
  - LCD projector (beamer)
  - White board or flip chart
- Availability of a training related engine
- Knowledge of course language

**Course objectives**  
The trainee learns:

- How to operate the engine and related systems
- How to identify and rectify minor faults
- How to perform preventive maintenance tasks per MTU Instructions

**Curriculum**

- Handling of documentation
- Design and function of the engine
- Explanation of oil and fuel, systems, etc.
- Explanation of the fluids and lubricants specification
- Basic troubleshooting
- Explanation of preventive maintenance tasks QL 1 at the engine
- Introduction to the engine management system

**Duration**  
To be agreed upon

**Schedule**  
To be agreed upon

**No. of participants**  
Max. 8 persons

**Location**  
On-site at customer's location

**Course language**  
To be agreed upon

**Training time**  
8:30 am to 4:30 pm

### Course Designations

# 4000 CM1/M

Engine Series

C = Customer

G = GenDrive

M = Machinery/Engine Training Course

M = Marine

CM1 = Course for Operator

R = Railway

CM2 = Course for Maintainer

C&I = Industrial

CMO = On-Site Operator Training

P = Oil & Gas

T = Oil & Gas, Frac

## Duration of training courses

Series 60	Duration	Series 4000	Duration
CM2	5 days	CM1	3 days
		CM2	5 days
Series 183	Duration	Series 595	Duration
CM2	5 days	CM1	4 days
		CM2	9 days
Series 500/900/460 w/SCR	Duration	Series 956/1163	Duration
CM2	3 days	CM1	4 days
		CM2	8 days
Series 1000/1100/1300/1500	Duration	Series 8000	Duration
CM1	3 days	CM1	4 days
CM2	5 days	CM2	7 days
Series 2000	Duration	Training for Service Personnel	Duration
CM1	3 days	CMO	to be defined
CM2	5 days		
Series 396	Duration		
CM1	4 days		
CM2	7 days		

# Electronics training courses

Several MTU training courses are available to help operators and other service personnel learn all about MTU electronics systems.

- ECS-UNI / ADEC-UNI
- *blue*line
- *blue*vision
- *blue*vision NG
- Callosum
- Genoline
- MCS-5
- MTU-integrated Automation
- *smart*line
- Universal

## CE1

**Target trainees**  
Operators

- Prerequisites**
- Knowledge of electronics
  - Knowledge of course language

- Course objectives**  
The trainee learns:
- Design and function of electronics systems
  - How to operate the engine system
  - Basic troubleshooting

- Curriculum**
- Introduction of scope of electronics
  - Handling of documentation and drawings
  - System structure, design and operations
  - Troubleshooting via "Display Navigation"

**Duration**  
To be agreed upon

**Schedule**  
To be agreed upon

**No. of participants**  
Max. 8 persons

**Location**  
MTU Training Center - Friedrichshafen

**Course language**  
To be agreed upon

**Training time**  
8:00 am to 4:00 pm

## CE2

**Target trainees**  
Maintenance staff

- Prerequisites**
- Knowledge of electronics
  - Knowledge of course language

- Course objectives**  
The trainee learns:
- Design and function of electronics systems
  - How to operate the engine system
  - Basic troubleshooting

- Curriculum**
- Curriculum of course CE1
  - Engine wiring and sensors
  - System configuration and replacing of components
  - Replacing complete units
  - Introduction of the dialog unit (Basic Level)
  - Data recording and error codes
  - Troubleshooting via "Display Navigation and Dialog Unit"

**Duration**  
To be agreed upon

**Schedule**  
To be agreed upon

**No. of participants**  
Max. 8 persons

**Location**  
MTU Training Center - Friedrichshafen

**Course language**  
To be agreed upon

**Training time**  
8:00 am to 4:00 pm

## CEO

**Target trainees**  
Operators on site

- Prerequisites**
- A room for the theoretical training
  - Availability of a training related engine
  - Knowledge of course language

- Course objectives**  
The trainee learns:
- Design and function of electronics systems
  - How to operate the engine system
  - Basic troubleshooting

- Curriculum**
- Introduction of scope of electronics
  - Handling of documentation and drawings
  - Operating and system functions
  - Troubleshooting via "Display Navigation"

**Duration**  
To be agreed upon

**Schedule**  
To be agreed upon

**No. of participants**  
Max. 8 persons

**Location**  
On site at customer's location

**Course language**  
To be agreed upon

**Training time**  
8:30 am to 4:30 pm

### Course Designations

# ECS-UNI/CE1/M

#### Electronics System

- ECS-UNI / ADEC-UNI
- *blue*line
- *blue*vision
- *blue*vision NG
- Callosum
- Genoline
- MCS - 5
- MTU - integrated Automation
- *smart*line
- Universal

CE1 = Course for Operating Personnel

CE2 = Course for Maintenance Personnel

CEO = Course On Site

G = GenDrive

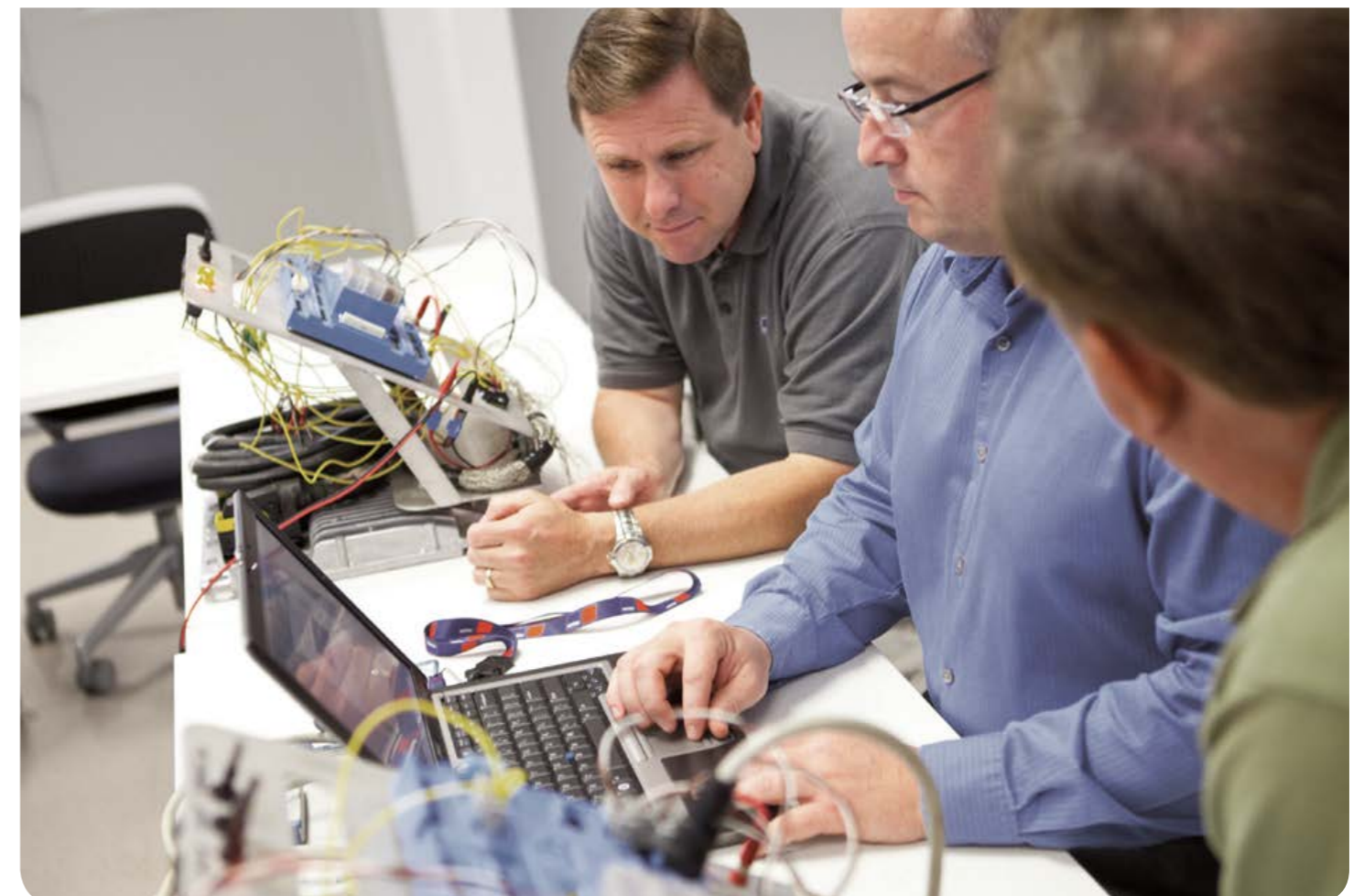
M = Marine

R = Railway

C&I = Industrial

P = Oil & Gas

T = Oil & Gas, Frac



## Training Centers

MTU Training Centers are located around the world. MTU trainers are accessible and ready to help. Wherever you need training, our facilities will be nearby. And as your company grows, so will ours. The fully customized, customer-specific training courses are offered from our three primary locations: Friedrichshafen, Germany; Detroit, USA; and Singapore. Additionally, our standardized training courses are offered at these locations:

AUSTRALIA  
CHILE  
CHINA  
FRANCE  
INDIA  
ITALY  
JAPAN  
MALAYSIA

THE NETHERLANDS  
NORWAY  
PERU  
RUSSIAN FEDERATION  
SOUTH AFRICA  
SPAIN  
TURKEY  
UNITED ARAB EMIRATES



- 1 Friedrichshafen, Germany
- 2 Detroit, USA
- 3 Singapore

# MTU Training Center Friedrichshafen, Germany

Located at the MTU world headquarters, the MTU Training Center offers customized training courses for service technicians all over the world.



- 1 At the MTU Training Center, trainees receive a thorough, hands-on education. MTU instructors have completed professional training and offer extensive experience.
- 2 Hands-on training is offered on all MTU-FN and MTU Onsite Energy electronics systems.
- 3 Every year, over 2,400 trainees from all over the world attend the MTU Training Center.

Engine and systems technology is constantly evolving. Becoming fully knowledgeable can have a significant impact on a distributor's or customer's business. The MTU Training Center is the perfect place to learn. The facility provides essential hands-on training on all MTU-FN and MTU Onsite Energy engine series and electronic systems. Every product is available on the training floor, from the smallest control systems to MTU's largest engine—the Series 8000. The MTU Training Center educates over 2,400

trainees every year, including distributors, customers, service dealers and MTU employees all over the world. Trainees can choose from over 100 project-related customized courses, including basic troubleshooting, engine design and functions, preventive maintenance, data recording and electrical diagnostics.

More than 17 MTU instructors are ready to pass along their expertise, offering instruction in seven languages. Each member of the team has completed a wide range of professional training and has extensive experience in service, development and marketing. Regular in-house training measures, practical on-the-job experience and close connections to other in-house employees ensures that our instructors are complete experts in all of the MTU systems.



# Training Centers

## Germany

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1 The North American MTU Training Center in Canton, Michigan, USA

2 Learning as a team creates the ideal conditions for efficient system operation.

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# You've made a powerful investment. Protect it with MTU **ValueCare**.

MTU engines and systems are built to deliver robust, reliable performance. But our commitment to your success doesn't end there. For peak performance, longer life and optimized costs, rely on MTU **ValueCare**—the only service portfolio designed specifically with your equipment in mind.

#### **Improve performance and extend equipment life.**

- Avoid the unexpected with professional service from MTU-certified technicians
- Keep your equipment running smoothly with genuine filters, oils, coolants and OEM parts
- Empower your operators and maintenance personnel with extensive, hands-on training
- Keep a good thing going with factory remanufacturing and rebuild solutions

#### **Optimize costs without increasing risk.**

- Maximize fuel economy and uptime with preventive maintenance services
- Achieve cost-certainty and optimal availability with a ValueCare Agreement
- Protect against the cost of repairs with Extended Coverage beyond the standard warranty
- Proactively monitor equipment health and activity from afar with Digital Solutions
- Spend less on parts without compromising quality through our remanufacturing program

MTU **ValueCare** products and services are available worldwide through our extensive network of more than 1,200 service locations. Contact your local service partner today and ask how MTU **ValueCare** can be customized to meet your unique needs.



Service Network

# Local support. Worldwide.

Whenever and wherever you need expert support, MTU specialists are available. Our global service network of more than 1,200 locations—backed by our cutting-edge Parts Logistics Centers—provides you this assurance. To find your local MTU distributor, visit [www.mtu-online.com](http://www.mtu-online.com).

## Customer Assistance Center

Agents are available 24/7 for fast response to your inquiries and any service needs.

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Asia/Pacific +65 6860 9669

North and Latin America +1 248 560 8888

[info@mtu-online.com](mailto:info@mtu-online.com)



### Local support. Worldwide.

We ensure that you receive individualized support from our global network of more than 1,200 service centers—anywhere, anytime.

- ▣ Global Headquarters
- ▣ Regional Headquarters
- ▣ Sales and Customer Service Center

