Industry 4.0
Training and Consulting

Bosch Rexroth – Drive & Control Academy
Bosch – Manufacturing Engineering Asia Pacific
Bosch has implemented a dual strategy as a leading supplier and at the same time, a leading user of Industry 4.0. We connect our domain knowledge from the industry with our competence as provider of industrial solutions. At the Drive & Control Academy, we pass on this knowledge and experience to company and school-based instructors and universities: with training systems, training sessions, and modern media. Real-world training with original industrial components for example, with our mMS 4.0 modular training system, with which you can simulate a complete Industry 4.0 factory. In combination with Lean production – BPS (Bosch Production System), with extensive field of production process experience makes trainee understand the value stream as important framework when implementing i4.0 in real industrial world.

Our curriculum surrounding Internet of Thing (IoT) and Operating Technology (OT) with combination of own i4.0 feature solutions will prepare you for the connected industry.
Increasing connectivity

Each year, more and more people and things are becoming connected via the Internet. This trend is transforming almost every aspect of our private and professional lives. Networking also has a fundamental impact on the value creation in manufacturing. The concept of Industry 4.0 is opening up new potential for productivity and efficiency.

Based on experience

Bosch is in a unique position to apply a dual strategy in regards to Industry 4.0. As a leading user, we are compiling real-life experience in outfitting our own plants with Industry 4.0 technology. At the same time, we are using this experience in the development and application of new Industry 4.0 products, systems, software, and solutions, making Bosch a leading Industry 4.0 provider at the same time.

Ready for Industry 4.0

Based on our extensive field experience, Bosch has identified seven features. They determine the basic Industry 4.0-readiness of every solution. These features are valid for all technologies, suppliers, and applications.

Detailed information about Bosch Industry 4.0 products can be found in the Industry 4.0 at Bosch Product Catalog
This basic training is designed to provide a fast and simple approach to understand the main principles behind industry 4.0. The teaching method and content is an accumulation from years of experience in Bosch Production System (BPS) in order to achieve lean production. Adapting a well balance training between theory and practical, an interactive production simulation will help the participant experience how industry 4.0 can help to reduce manufacturing bottlenecks.

On the second day, the focus switches to technology and products. The 7 key features of industry 4.0 will be explained in detail and successful pilot projects from Bosch will also be covered. A visit to the DC Innovation Laboratory will let the participant experience the latest product first-hand and discuss potential application with the trainer. Finally, a plant tour is planned to illustrate how industry 4.0 is used live in our manufacturing. Benefits and saving by using industry 4.0 solution and concept will be explained.

Contents
- Please refer to
  - BPS & i4.0 Basic and i4.0 Solution Basic

Learning goals
- Please refer to
  - BPS & i4.0 Basic and i4.0 Solution Basic

Prerequisites
- Please refer to
  - BPS & i4.0 Basic and i4.0 Solution Basic

Target group
- Please refer to course:
  - BPS & i4.0 Basic and i4.0 Solution Basic

Dates (Chinese)  Training locations
4 & 5 July 2017  Changzhou
8 & 9 August 2017  Changzhou
5 & 6 September 2017  Changzhou
24 & 25 October 2017  Changzhou
29 & 30 November 2017  Changzhou
13 & 14 December 2017  Changzhou

Training times
Day 1  09:00 AM - 4:30 PM
Day 2  09:00 AM - 4:30 PM

Price for 2-Day training
CNY 4,400.00

Note
- Please refer to course:
  - BPS & i4.0 Basic and i4.0 Solution Basic

Price does not include tax.
Please submit the application form to “technicaltraining@boschrexroth.com.cn” two weeks before the course started.
At Bosch, the Bosch Production System (BPS) provides the framework for Industry 4.0. What does this mean in practice? How should the value stream be designed so that the aspects of Lean Production are complementary with Industry 4.0 solutions? Material movements are recorded and visualized in real time using the hands-on example of ‘ballpoint pen assembly’. Over several rounds of simulations, the participants optimize the value stream based on the principles of the Bosch Production System. The positive effects of this are directly identifiable in the indicators recorded. The participants use the obtained value stream data for operator assistance in real time, for optimizing the material flow and for subsequent data analytics processes. The participants experience how the appropriate use of IT can significantly improve the performance of value streams.

Contents

- Get to know the BPS and i4.0 relation
- Analyze interaction of BPS and i4.0 in group works
- Experience the importance of BPS as the framework of i4.0
- Understand and experience the benefits of i4.0 solution sets for BPS

Learning goals

- Participants will understand
  - the principles of Industry 4.0
  - the principles of the Bosch production System (Lean Production)

- Participants will experience
  - the importance of a lean value stream as a basis for successful implementation of industry 4.0
  - the added value obtained from consistent use of real time data in lean value streams
    - to ease the burden of routine activities
    - to increase transparency in the value stream
    - for data analytics

Prerequisites

- Principles of Lean Production (concept of value stream, idea of consumption control)

Target group

Manufacturing and logistics planners, managers and department heads, supervisors, plant managers, work council, executives, shop floor leaders, BPS coordinator, BPS project leaders and project members of industry 4.0

Dates (Chinese)    Training locations
4 July 2017        Changzhou
8 August 2017      Changzhou
5 September 2017   Changzhou
24 October 2017    Changzhou
29 November 2017   Changzhou
13 December 2017   Changzhou

Training times
1 day    09:00 AM - 4:30 PM

Price
CNY 3,000.00

Note
Make sure you have finished the web based training “Bosch Production System” and pass the evaluation to get certificate. Non Bosch employee will receive training manual by separate mail for pre-study. BGN website:
Link: Web Based Training “BPS”

Price does not include tax.
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Welcome to a new reality: Everyone is talking about Industry 4.0, which is also being referred to as the fourth industrial revolution. It merges the virtual world of information technology, the physical world of machines and the Internet. Industry 4.0 constitutes the way forward and offers exciting opportunities for those who possess the expertise and vision to quickly realize these possibilities. Our training provides you with a solid introduction to the world of Industry 4.0 – and uses many sample applications and the necessary vision to ensure you have the i4.0 knowledge you need.

Contents
- 7 features of Industry 4.0
- Used case of Rexroth technology
  - Explanation of important concepts
  - Organizations and associations
- Concepts for engineering, manufacturing and production
- Industry 4.0 at Bosch and Bosch Rexroth
- Best practice with ActiveSuite
- Plant tour

Learning goals
- The participant gains a understanding of Industry 4.0 possibility
- They can classify the Internet of Things and assign solutions
- They know what Bosch and Bosch Rexroth are doing in the field of Industry 4.0
- They know the Rexroth concepts and examples from our manufacturing
- They know the products such as the ActiveSuites for enabling Industry 4.0.

Prerequisites
- Excellent technical understanding
- Basic knowledge of automation and control technology

Target group
Application engineer, newcomers to Industry 4.0

Dates (Chinese)   Training locations
5 July 2017       Changzhou
9 August 2017     Changzhou
6 September 2017  Changzhou
25 October 2017   Changzhou
30 November 2017  Changzhou
14 December 2017  Changzhou

Training times
1 day              09:00 AM - 4:30 PM

Price
CNY 1,900.00

Note
Make sure you take a look at our growing range of services related to Industry 4.0 on our website:
http://www.boschrexroth.com/training/industry-4-0

Price does not include tax.
Please submit the application form to “technicaltraining@boschrexroth.com.cn” two weeks before the course started.
Contact and Training location

We would be happy to advise you regarding our training! Any questions, please contact us by following information.

Bosch Rexroth China
Drive & Control Academy
17 Longmen Road Wujin High-tech Zone
213164 Changzhou China

Phone:  +86 519 8351-5165
Fax:     +86 519 8351-5008
technicaltraining@boschrexroth.com.cn
Bosch Rexroth Technical Training Registration Form (1/2)

Customer number (if applicable): __________________________

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Only for Bosch Rexroth internal record

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Approved By:

Supervisor:

Date:

Please submit the application form to “technicaltraining@boschrexroth.com.cn” two weeks before the course started. We have the right to change the date, location of training and cancel the training, course admission and information will sent to your mailbox. Please prepare your own travelling accident and working insurance to cover the training and travelling period.
Please complete the following:

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Total RMB without tax:

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Please submit the application form to “technicaltraining@boschrexroth.com.cn” two weeks before the course started.
Location of Training Centre

Bosch Rexroth (Changzhou) Co., Ltd.
17 Longmen Road,
Wujin High-tech Zone
Changzhou, 213164 P.R. China

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Fax: +86 519 8351 5008
www.boschrexroth.com.cn

Joint Organizer

Bosch (China) Investment Ltd.
Suzhou Branch C/MPE-AP
No.2 Suzhou Avenue West,
Suzhou Industrial Park,
Suzhou, P.R.China 215021

We are happy to be your consultant in real Industry 4.0