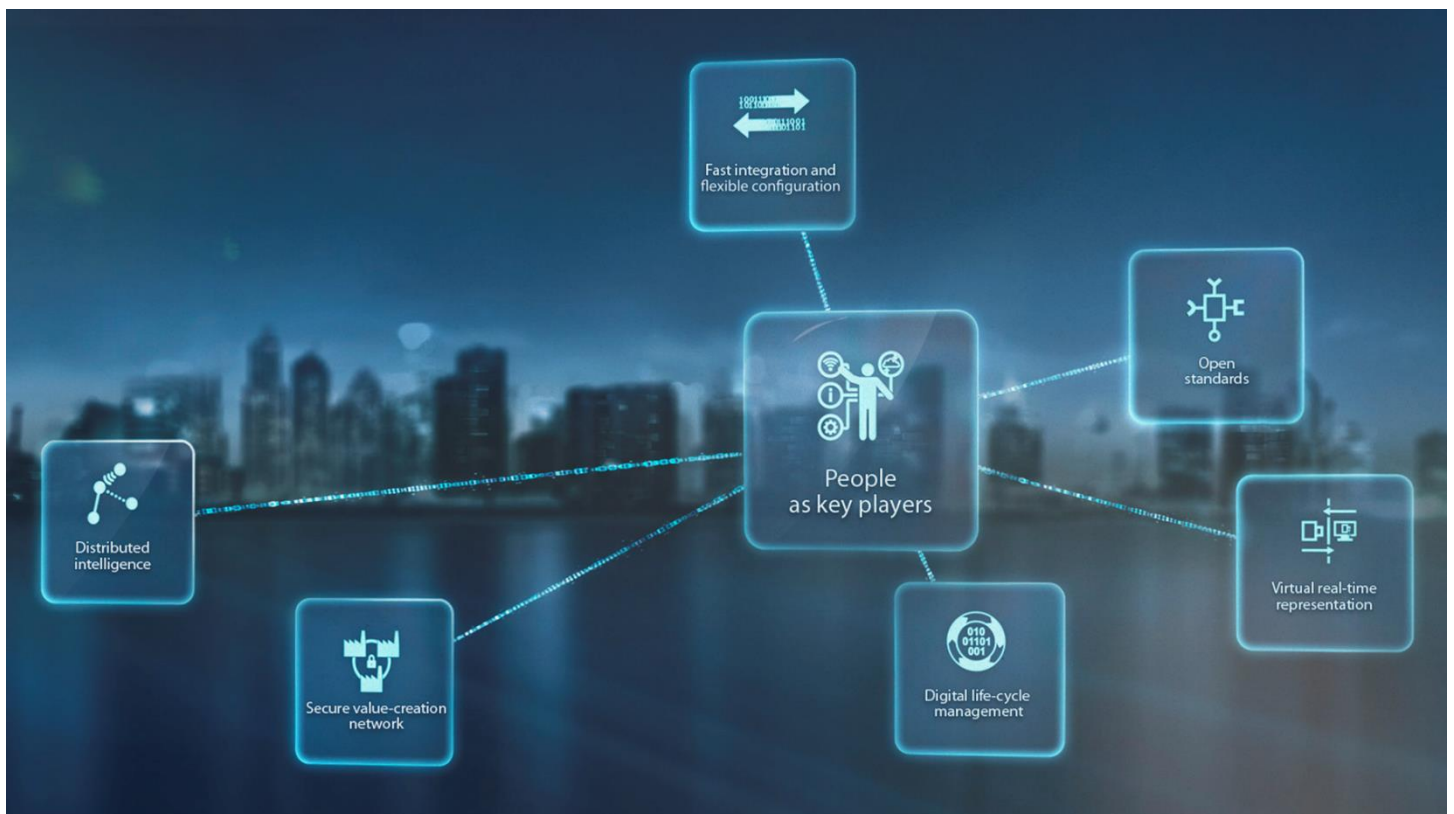


Industry 4.0

Training and Consulting



Bosch Rexroth – Drive & Control Academy
Bosch – Manufacturing Engineering Asia Pacific



Foreword

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.





My Training Planner 2017 for Industry 4.0

July	August	September	October	November	December
1 Sa 27	1 Tu	1 Fr	1 Su National Day	1 We	1 Fr
2 Su	2 We	2 Sa 36	2 Mo National Day	2 Th	2 Sa 49
3 Mo	3 Th	3 Su	3 Tu National Day	3 Fr	3 Su
4 Tu BPS & i4.0 Basic	4 Fr	4 Mo	4 We Mid-autumn Day	4 Sa 45	4 Mo
5 We i4.0 Solution Basic	5 Sa 32	5 Tu BPS & i4.0 Basic	5 Th National Day	5 Su	5 Tu
6 Th	6 Su	6 We i4.0 Solution Basic	6 Fr National Day	6 Mo	6 We
7 Fr	7 Mo	7 Th	7 Sa National Day 41	7 Tu	7 Th
8 Sa 28	8 Tu BPS & i4.0 Basic	8 Fr	8 Su National Day	8 We	8 Fr
9 Su	9 We i4.0 Solution Basic	9 Sa 37	9 Mo	9 Th	9 Sa 50
10 Mo	10 Th	10 Su	10 Tu	10 Fr	10 Su 50
11 Tu	11 Fr	11 Mo	11 We	11 Sa 46	11 Mo
12 We	12 Sa 33	12 Tu	12 Th	12 Su	12 Tu
13 Th	13 Su	13 We	13 Fr	13 Mo	13 We BPS & i4.0 Basic
14 Fr	14 Mo	14 Th	14 Sa 42	14 Tu	14 Th i4.0 Solution Basic
15 Sa 29	15 Tu	15 Fr	15 Su	15 We	15 Fr
16 Su	16 We	16 Sa 38	16 Mo	16 Th	16 Sa 51
17 Mo	17 Th	17 Su	17 Tu	17 Fr	17 Su
18 Tu	18 Fr	18 Mo	18 We	18 Sa 47	18 Mo
19 We	19 Sa 34	19 Tu	19 Th	19 Su	19 Tu
20 Th	20 Su	20 We	20 Fr	20 Mo	20 We
21 Fr	21 Mo	21 Th	21 Sa 43	21 Tu	21 Th
22 Sa 30	22 Tu	22 Fr	22 Su	22 We	22 Fr
23 Su	23 We	23 Sa 39	23 Mo	23 Th	23 Sa 52
24 Mo	24 Th	24 Su	24 Tu BPS & i4.0 Basic	24 Fr	24 Su
25 Tu	25 Fr	25 Mo	25 We i4.0 Solution Basic	25 Sa 48	25 Mo
26 We	26 Sa 35	26 Tu	26 Th	26 Su	26 Tu
27 Th	27 Su	27 We	27 Fr	27 Mo	27 We
28 Fr	28 Mo	28 Th	28 Sa 44	28 Tu	28 Th
29 Sa 31	29 Tu	29 Fr	29 Su	29 We BPS & i4.0 Basic	29 Fr
30 Su	30 We	30 Sa Working day 40	30 Mo	30 Th i4.0 Solution Basic	30 Sa 53
31 Mo	31 Th		31 Tu		31 Su

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](#)

BPS & i4.0 Hybrid Basic

Introduction to Industry 4.0 concept and technology

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)

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 locations

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.

BPS & i4.0 Basic

Lean Production and Industry 4.0 (Day 1)

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.

Please submit the application form to "technicaltraining@boschrexroth.com.cn" two weeks before the course started.

i4.0 Solution Basic

7 Features of Industry 4.0 (Day 2)

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.



BOSCH

Rexroth
Bosch Group

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): _____

Please complete the following:

Name:		Application Date:	
Company Name:		Full Name of Invoice Payer:	
Bank Account Number:		Bank Information:	
TAX I.D.:			
Contact Number:		Fax:	
Mobile Number:		Address:	
Postal Code:		Email:	

Only for Bosch Rexroth internal record

Name:		Application Date:			
Dept:		Internal Order no.:			
Tel:		Fax:			
Region:		Title:		Employee no.:	
Cost Center:		Email:			

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.



Bosch Rexroth Technical Training Registration Form (2/2)

Please complete the following:

Appendix 2

Course code	Course Name	Training Preiod	Location	Name of Trainee	Email	Contact Number	Training fee
Total RMB without tax:							

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.

Price does not include tax.

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

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Suzhou, P.R.China 215021

We are happy to be your consultant in real Industry 4.0

