# 国家“工匠之师”创新团队境外培训计划9团 – 物联网技术

**培训日程**

# China Overseas Training Project for TVET Innovation Teams- Delegation 9 on Internet of Things (COTPTIT-D9-IoT) Training Program

2019年11月17日-12月15日

17 November 2019 –15 December 2019

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| 天数Day | 日期Date | 培训内容Training schedule | 城市City |
| 1 | 17th Nov.Sunday | Arrival at Berlin Airport Transfer to hotel18:00 Welcome Dinner | Berlin 柏林 |
| 2 | 18th Nov.Monday | 上午Morning9:00-12:00午餐Lunch12:00 – 14:00下午Afternoon14:00-17:00培训 Training:主题Topic:Train the trainer – Opening Day, Program introduction培训师培训-开幕日-德国双元制概览Introduction of individual project work–介绍个人项目工作主讲人Speaker：Carlo Humberg, Bjoern Glock, Eberhard Riebel / Kevin Waeschebach职务Position：Vocational Senior Trainer单位和部门Department and organization：TUV Rheinland Academy 联系方式Contact information: Bjoern Glock地址Training Address：Pichelswerderstr. 9, 13597 Berlin-Spandau | Berlin 柏林 |
| 3 | 19th Nov.Tuesday | 上午Morning 9:00-12:00 培训 Training:主题Topic：Introduction into the German Vocational Educational System / Modernizing Curricula in the field of Industry 4.0 and IoTIndustry 4.0 / Internet of Things– impact on different qualification profiles 德国双元制概览/政府相关部门的角色/BIBB/学校/学校水平/学校类型工业4.0和物联网领域的课程现代化工业4.0的职业教育学 -哪些职业与职业教育者将会“工业4.0-物联网”的影响？Dr. Gert Zinke, BIBB午餐Lunch 12:00 – 14:00下午Afternoon 14:00-17:00培训/培训实验室 Training/WorkshopVocational pedagogics and didactics职业教育学与技术教学法主讲人Speaker：Eberhard Riebel / Kevin Waeschebach职务Position：Vocational Senior Trainer单位和部门Department and organization：TUV Rheinland Academy 联系方式Contact information: Bjoern Glock地址Training Address：Pichelswerderstr. 9, 13597 Berlin-Spandau | Berlin 柏林 |
| 4 | 20th Nov.Wednesday | 上午Morning 9:00-12:00 午餐Lunch12:00 – 14:00下午Afternoon 14:00-17:00培训/培训实验室 Training and Workshop主题Topic: Practical development of a complete learning unit单元学习开发与所需文件Introduction to German Curriculua in the Industry 4.0 related subjects教学与教育计划介绍Concept of learning fields / learning field models / Learning situation / Action oriented/ learning with industry学习概念/学习模型/学习情况/处理能力主讲人Speaker：Eberhard Riebel / Kevin Waeschebach职务Position：Vocational Senior Trainer单位和部门Department and organization：TUV Rheinland Academy 联系方式Contact information: Bjoern Glock地址Training Address：Pichelswerderstr. 9, 13597 Berlin-Spandau | Berlin 柏林 |
| 5 | 21th Nov.Thursday | Introduction to the 4-Step methodology /Introduction tothe TÜV Rheinland documents* Relevant practical workshop exercises
* Introduction to the TUV Rheinland documents in the field of curriculum planning, lesson planning, training delivery according to the German Dual System
* Work plan, Task description
* Working tasks, diagrams, working sheetsevaluation criteria
* Implementation of the documents

四阶法引入/TUV莱茵相关文件介绍* 行业相关实际工作坊练习
* 工作计划与任务描述
* 传单、图表与图纸的评价样板框架
* 文件使用

Project methodology项目方法Video documentation- 录像文件 | Berlin 柏林 |
| 6 | 22th Nov.Friday | 08:00 Departure from hotel, 酒店出发上午Morning 9:00 - 1200 午餐Lunch10:00 – 14:00下午Afternoon 14:00-17:00访问 Excursion主题Topic：Visit to anin-company training Center related to Automatization & IoT访问跨企业培训中心，企业内培训中心主讲人Speaker：Eberhard Riebel / Kevin Waeschebach职务Position：Vocational Senior Trainer单位和部门Department and organization：TUV Rheinland Academy 联系方式Contact information: Bjoern Glock地址Training Address：Pichelswerderstr. 9, 13597 Berlin-Spandau | Berlin 柏林 |
| 7 | 23th Nov.Saturday | Weekend: Joint cultural program in Berlin周末：周末活动-柏林文化项目 | Berlin 柏林 |
| 8 | 24th Nov.Sunday | 周末：自由活动– Free time | Berlin 柏林 |
| 9 | 25th Nov.Monday | 07:00 Departure from hotel, 酒店出发访问 Excursion to Chemnitz10:00 – 16:00主题Topic：Industry 4.0 und IIoT in the textile industry- Challenges, Solutions, Best Practice防止工业中的工业4.0和IIoT - 挑战，解决方案，最佳实践主讲人Speaker：Frizzi Seltmann and different technicians职务Position：Senior Experts单位和部门Department and organization:TUV Rheinland Academy 联系方式Contact information: Bjoern Glock地址Training Address：Chemnitz | Chemnitz 开姆尼茨 |
| 10 | 26th Nov.Tuesday | 上午Morning 9:00-12:00 午餐Lunch12:00 – 14:00下午Afternoon 14:00-17:00培训/培训实验室 Training and Workshop主题Topic: Overall Introduction into the subject „Industry 4.0 – Internet of Things“ –with a focus on industrial production environment引进“工业4.0-物联网”-关注工作生产环境的投入使用主讲人Speaker：Dr. Ulrich Berger职务Position：Head Automation Technology单位和部门Department and organization：TUV Rheinland Academy 联系方式Contact information: Bjoern Glock地址Training Address：Pichelswerderstr. 9, 13597 Berlin-Spandau | Berlin 柏林 |
| 11 | 27th Nov.Wednesday | 上午Morning 9:00-12:00 午餐Lunch12:00 – 14:00下午Afternoon 14:00-17:00培训/培训实验室 Training and Workshop主题Topic：Practical training on a connected and automated production line with Industry 4.0 and IIoT features具有工业4.0和IIoT功能的连接和自动化生产线的实践培训讲师Trainer：Sebastian Thiedeand team职务Position: Senior Trainer单位和部门Department and organization：TUV Rheinland Academy 联系方式Contact information: Bjoern Glock地址Training Address： Braunschweig | Braun-schweig不论瑞克 |
| 12 | 28h Nov.Thursday | 上午Morning 9:00-12:00 午餐Lunch12:00 – 14:00下午Afternoon 14:00-17:00培训/培训实验室 Training and Workshop主题Topic：Practical training on a connected and automated production line with Industry 4.0 and IIoT features具有工业4.0和IIoT功能的连接和自动化生产线的实践培训Workshop training and demonstration/ Groupwork 车间培训与单元学习介绍Connect different components of a IoT production line物联网设备零件的监控、分析与应用主讲人Speaker：Sebastian Thiede and team职务Position: Senior Trainer单位和部门Department and organization：TUV Rheinland Academy 联系方式Contact information: Bjoern Glock地址Training Address： Braunschweig | Braun-schweig不论瑞克 |
| 13 | 29th Nov.Friday | 上午Morning 9:00-12:00 午餐Lunch12:00 – 14:00下午Afternoon 14:00-17:00培训/培训实验室 Training and Workshop主题Topic：Practical training on a connected and automated production line with Industry 4.0 and IIoT features具有工业4.0和IIoT功能的连接和自动化生产线的实践培训讲师Trainer：Sebastian Thiedeand team职务Position: Senior Trainer单位和部门Department and organization：TUV Rheinland Academy 联系方式Contact information: Bjoern Glock地址Training Address： Braunschweig | Braun-schweig不论瑞克 |
| 14 | 30th Nov.Saturday | Weekend: Joint cultural program in Hannover/Wolfsburg周末：周末活动-柏林文化项目 | Braun-schweig不论瑞克 |
| 15 | 01st Dec.Sunday | Weekend - 周末：自由活动 | Braun-schweig不论瑞克 |
| 16 | 02 nd Dec.Monday | 上午Morning 9:00-12:00 午餐Lunch12:00 – 14:00下午Afternoon 14:00-17:00培训/培训实验室 Training and Workshop主题Topic：CPS System – Functioning of an IoT production line物联网生产设备的功能引进“工业4.0-物联网”-关注工作生产环境的投入使用Robotics, Cobots, Programming and integration into a CPS System机器人制造技术、铰链式机器人、Cobots（机器人）在一个完整系统中的编程与结合Using and maintenance of production line robots生产机器人的调试与维护Visualization and Control Screens可视化系统与监管控制屏幕Testing and Diagnosis Software投入使用测试与诊断软件设备Practical exercises and measuring检验界面接口信号状况、特定网络检验讲师Trainer：Sebastian Thiedeand team职务Position：Vocational Senior Trainer单位和部门Department and organization：TUV Rheinland Academy 联系方式Contact information: Bjoern Glock地址Training Address：Braunschweig | Braun-schweig不论瑞克 |
| 17 | 03 rd Dec.Tuesday | 上午Morning 9:00-12:00 午餐Lunch12:00 – 14:00下午Afternoon 14:00-17:00培训/培训实验室 Training and Workshop主题Topic：IT qualification requirements related to IoT.Smart objects, different modules and risks of an IoT platform, different operating systems, software development与物联网相关的IT资格要求智能对象，物联网平台的不同模块/风险，不同的操作系统,软件研发主讲人Speaker：Thomas Scheffler职务Position：Senior Expert单位和部门Department and organization：TUV Rheinland Academy 联系方式Contact information: Bjoern Glock地址Training Address：Pichelswerderstr. 9, 13597 Berlin-Spandau | Berlin 柏林 |
| 18 | 04th Dec.Wednes-day | 上午Morning 9:00-12:00 午餐Lunch12:00 – 14:00下午Afternoon 14:00-17:00培训/培训实验室 Training and Workshop主题Topic：Embedded Systems for IoT. [嵌入](https://www.linguee.com/chinese-english/translation/%E5%B5%8C%E5%85%A5%E5%BC%8F%E7%B3%BB%E7%BB%9F.html)式技术与应用Introduction and practical exersices 介绍和实践练习主讲人Speaker：Felix Huening职务Position：Senior Expert Embedded Systems / IoT单位和部门Department and organization：TUV Rheinland Academy 联系方式Contact information: Bjoern Glock地址Training Address：Pichelswerderstr. 9, 13597 Berlin-Spandau | Berlin 柏林 |
| 19 | 05h Dec.Thursday | 上午Morning 9:00-12:00 午餐Lunch12:00 – 14:00下午Afternoon 14:00-17:00培训/培训实验室 Training and Workshop主题Topic：IT and OT Security – IT Security in connected IoT production environment主讲人Speaker：Klaus Hansemann职务Position：IT Security Expert单位和部门Department and organization：TUV Rheinland Academy 联系方式Contact information: Bjoern Glock地址Training Address：Pichelswerderstr. 9, 13597 Berlin-Spandau | Berlin 柏林 |
| 20 | 06th Dec.Friday | 08:00 Departure from hotel, 酒店出发上午Morning 9:00 - 1200 午餐Lunch10:00 – 14:00下午Afternoon 14:00-17:00访问 Excursion主题Topic: Industry 4.0 and IIoT education on University level – Dual University Approach大学&应用大学层面的工业4.0和IIoT教育/双元应用大学的特点主讲人Speaker：Joerg Reiff-Stephan职务Position：Senior Expert单位和部门Department and organization:TUV Rheinland Academy 联系方式Contact information: Bjoern Glock地址Training Address：Berlin/Wildau | Berlin 柏林 |
| 21 | 07th Dec.Saturday | Weekend: Joint cultural program in Berlin周末：周末活动-柏林文化项目 | Berlin 柏林 |
| 22 | 08th Dec.Sunday | 周末：自由活动 | Berlin 柏林 |
| 23 | 09th Dec.Monday | 上午Morning 9:00-12:00 午餐Lunch12:00 – 14:00下午Afternoon 14:00-17:00培训/培训实验室 Training and Workshop主题Topic：Industry Automation with SiemensTIA Portal - Detailed modules covering also Data Security/Industrial Ethernet/ Simulation/ Digital Twin 工业自动化使用西门子TIA Portal - 根据标准模块定义的详细模块- 还包括数据安全/工业以太网/模拟/数字双/数据可视化/机器学习/预测维护/状态监测讲师Trainer：Michael Dziallas职务Position：Automation Expert单位和部门Department and organization：TUV Rheinland Academy 联系方式Contact information: Bjoern Glock地址Training Address：Pichelswerderstr. 9, 13597 Berlin-Spandau | Berlin 柏林 |
| 24 | 10th Dec.Tuesday | 上午Morning 9:00-12:00 午餐Lunch12:00 – 14:00下午Afternoon 14:00-17:00培训/培训实验室 Training and Workshop主题Topic：Industry Automation with Siemens TIA Portal - Detailed modules covering also Data Security/Industrial Ethernet/ Simulation/ Digital Twin / Data工业自动化使用西门子TIA Portal - 根据标准模块定义的详细模块 - 还包括数据安全/工业以太网/模拟/数字双/数据可视化/机器学习/预测维护/状态监测讲师Trainer：Michael Dziallas职务Position：Automation Expert单位和部门Department and organization：TUV Rheinland Academy 联系方式Contact information: Bjoern Glock地址Training Address：Pichelswerderstr. 9, 13597 Berlin-Spandau | Berlin 柏林 |
| 25 | 11th Dec.Wednesday | 上午Morning 9:00-12:00 午餐Lunch12:00 – 14:00下午Afternoon 14:00-17:00培训/培训实验室 Training and Workshop主题Topic：Industry Automation with Siemens TIA Portal - Detailed modules covering also Data Security/Industrial Ethernet/ Simulation/ Digital Twin / Data工业自动化使用西门子TIA Portal - 根据标准模块定义的详细模块 - 还包括数据安全/工业以太网/模拟/数字双/数据可视化/机器学习/预测维护/状态监测讲师Trainer：Michael Dziallas职务Position：Automation Expert单位和部门Department and organization：TUV Rheinland Academy 联系方式Contact information: Bjoern Glock地址Training Address：Pichelswerderstr. 9, 13597 Berlin-Spandau | Berlin 柏林 |
| 26 | 12h Dec.Thursday | 上午Morning 9:00-12:00 午餐Lunch12:00 – 14:00培训/培训实验室 Training and Workshop主题Topic：Industry Automation with Siemens TIA Portal - Detailed modules to be defined according to standard modules - covers also Data Security/Industrial Ethernet/ Simulation/ Digital Twin / Data工业自动化使用西门子TIA Portal - 根据标准模块定义的详细模块 - 还包括数据安全/工业以太网/模拟/数字双/数据可视化/机器学习/预测维护/状态监测讲师Trainer：Michael Dziallas职务Position：Automation Expert下午Afternoon14:00-17:00培训 Training:主题Topic：Presentation of individual project work主讲人Speaker：all participantsEberhard Riebel / Kevin Waeschebach职务Position：Vocational Senior Trainer单位和部门Department and organization：TUV Rheinland Academy 联系方式Contact information: Bjoern Glock地址Training Address：Pichelswerderstr. 9, 13597 Berlin-Spandau | Berlin 柏林 |
| 27 | 13th Dec.Friday | Departure -回程 | Berlin 柏林 |
| 28 | 14thDec.Saturday | Arrival China- 达到中国 |  |