



A. Jovanovic, R. Guntrum, Y. Liu (Eds.)

Safe China Final Report

**Promoting the EU and German standards
and practices of Environmental Protection
and Industrial Safety in China**



**Steinbeis Advanced Risk
Technologies GmbH**

"Promoting the EU and German standards and practices of Environmental Protection and Industrial Safety in China"

SafeChina Final Report

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Executive summary

This document presents the results of the international technology transfer and cooperation project SafeChina ("Promoting the EU and German standards and practices of Environmental Protection and Industrial Safety in China", www.safechina.risk-technologies.com). The purpose of the project was to build an education, training and certification infrastructure and to offer to Chinese engineers and other professionals the possibility to learn about the EU HSE practices and regulation and qualify as Environmental- and Safety engineers according to the EU criteria, guidelines and practice.

The main partners in the project have been Steinbeis University Berlin represented by Steinbeis Transfer Institute Advanced Risk Technologies, STI889, and the DEG mbH (Deutsche Investitions- und Entwicklungsgesellschaft mbH), subsidiary of KfW Banking Group, Germany. Steinbeis Transfer Institute Advanced Risk Technologies partners for realization of the project were also Steinbeis Advanced Risk Technologies GmbH, European Virtual Institute for Integrated Risk Management, Germany, INERIS Formation, France and DEKRA Akademie GmbH, Germany. Strategic Chinese partner was Beijing Municipal Institute of Labour Protection while Capital University of Economics and Business Beijing was the main education supporter.

The work on the project has yielded the following main results:

1. Preparation of the curricula for 11 SafeChina courses (covering general risks in industry, asset/plant oriented risk, HSSE risk and business/governance risks);
2. Performing 13 instances of the courses (most of the courses were 1-week courses hosted by institutions in Beijing: Beijing Municipal Institute of Labor Protection, Capital University of Economics and Business Beijing, Sinopec Beijing Yanshan Petrochemical, China University of Petroleum, Beijing)
3. Participation of 436 Chinese attendees in above SafeChina courses out of which 422 have successfully passed corresponding final exams (from more than 30 Chinese companies and institutions);
4. Training of 23 SafeChina trainers (covering 7 out of 11 SafeChina courses; the trainers will continue teaching SafeChina courses in China);
5. Training of 17 SafeChina course participants in German and Switzerland companies (14 took a part in short-stay based and 3 in long-stay based on-the-job training);
6. Certifying 21 participants of SafeChina training who have fulfilled corresponding conditions for Risk Examiners (15 participants) and Senior Risk Assessors (6 participants);
7. Inclusion of SafeChina courses into the education program of the universities in China starting from school year 2012/2013 (Capital University of Economics and Business, Beijing)
8. Opening of 2 local SafeChina offices in China and 1 office in Germany (for organizing, coordinating and administrating education, training and certification in China and Germany).

The project has involved over 500 people (as stakeholders, training participants, lecturers, hosts etc.), 30+ China companies, 7+ German companies, 3 Chinese universities, German and Chinese governments/related agencies). Thus, important economic, social and political benefits for both Germany and China have been achieved, primarily in terms of positive effects for the spreading of knowledge about the EU and German HSE regulation/legislation to China.

The sustainability of the results is ensured through the lasting collaboration of German partners with main Chinese partners which will continue the activities on the commercial basis, envisaged in the framework of the joint-venture company ("Steinbeis Advance Risk Technologies Beijing").

Zusammenfassung

Das vorliegende Dokument beinhaltet die Ergebnisse des internationalen Technologietransfer- und Kooperationsprojekts SafeChina ("Promoting the EU and German standards and practices of Environmental Protection and Industrial Safety in China", www.safechina.risk-technologies.com). Das Ziel des Projekts war es, eine Ausbildungs-, Trainings- und Zertifizierungsinfrastruktur aufzubauen und chinesischen Ingenieuren und anderen Fachleuten die Möglichkeit zu bieten, sich über die EU HSE Praktiken und Vorschriften zu informieren sowie sich zum Umwelt- und Sicherheitsingenieur entsprechend der EU-Kriterien, -Regelwerken und -Praktiken zu qualifizieren.

Die Hauptpartner im Projekt waren Steinbeis Hochschule Berlin vertreten durch Steinbeis-Transfer-Institut Advanced Risk Technologies, STI889 und die DEG mbH (Deutsche Investitions- und Entwicklungsgesellschaft mbH) ein Tochterunternehmen der KfW Bankengruppe. Die Partner von Steinbeis-Transfer-Institut Advanced Risk Technologies waren Steinbeis Advanced Risk Technologies GmbH, Deutschland, European Virtual Institute for Integrated Risk Management, Deutschland, INERIS Formation, Frankreich und DEKRA Akademie GmbH, Deutschland. Strategischer Partner in China war Beijing Municipal Institute of Labour Protection während die Capital University of Economics and Business Beijing die Hauptunterstützung auf Bildungsebene leistete.

Die Arbeit im Projekt hat folgende Hauptergebnisse hervorgebracht:

1. Vorbereitung von Kursplänen für 11 SafeChina-Kurse (bezogen auf risks in industry, asset/plant oriented risk, HSSE risk and business/governance risks)
2. Durchführung von 13 Kursen (die meisten Kurse waren 1-wöchig, ausgerichtet von Institutionen in Peking: Beijing Municipal Institute of Labor Protection, Capital University of Economics and Business Beijing, Sinopec Beijing Yanshan Petrochemical, China University of Petroleum, Beijing)
3. 436 chinesische Teilnehmer bei oben genannten Kursen, davon haben 422 die entsprechenden Prüfungen bestanden (aus mehr als 30 chinesische Firmen und Institutionen);
4. Ausbildung von 23 SafeChina-Trainern (für 7 von 11 SafeChina-Kurse; die Trainer werden die SafeChina Kurse in China fortführen)
5. Training von 17 SafeChina-Kursteilnehmern in Firmen in Deutschland und der Schweiz (14 Teilnehmer bei Kurzzeit- und 3 bei langen On-the-job-Trainings)
6. Zertifizierung von 21 Safe-China-Kursteilnehmern, die die entsprechenden Voraussetzungen für Risk Examiner (15 Teilnehmer) und Senior Risk Assessors (6 Teilnehmer) erfüllt haben
7. Einbindung von SafeChina-Kursen in das Bildungsprogramm der Universitäten in China beginnend im Schuljahr 2012/2013 (Capital University of Economics and Business, Beijing)
8. Eröffnung von 2 lokalen Safe-China-Büros in China und 1 Büro in Deutschland (zur Organisation, Koordination und Administration von Ausbildung, Training und Zertifizierung in China und Deutschland)

Das Projekt hat mehr als 500 Personen eingebunden (als Stakeholder, Kursteilnehmer, Lehrkraft oder Veranstalter etc.), 30+ chinesische Firmen, 7+ deutsche Firmen, 3 chinesische Universitäten, deutsche und chinesische Regierungen/beteiligte Dienststellen. Somit wurde ein wichtiger wirtschaftlicher, sozialer und politischer Nutzen für Deutschland und China erlangt, insbesondere in Bezug auf den positiven Effekt der Verteilung von Wissen über EU und deutsche HSE-Vorschriften/-Gesetzgebung in China.

Durch eine dauerhafte Zusammenarbeit mit den wichtigsten chinesischen Partnern, die im Rahmen eines Joint-Venture-Unternehmens ("Steinbeis Advanced Risk Technologies Beijing") die Aktivitäten auf kommerzielle Basis fortführen sollen, wird die Nachhaltigkeit der Ergebnisse gewährleistet.

概述

本文呈现了国际技术转移与合作项目——安全中国项目（在中国推动欧盟和德国在环境保护及工业安全领域的标准和实践，www.safechina.risk-technologies.com）取得的成果。安全中国项目旨在建立一个教育、培训和认证体系，为中国工程师和相关专业人员提供了解欧盟在安全、健康与环保领域实践和法规的机会，并通过认证获得符合欧盟标准、法规和实践的环境和安全工程师资格。

安全中国项目的主要相关方是以斯泰恩拜斯先进风险技术转移研究院（STI889）为代表的柏林斯泰恩拜斯大学和 DEG 公司（Deutsche Investitions- und Entwicklungsgesellschaft mbH，德国 KfW 银行集团的子公司）。与斯泰恩拜斯先进风险技术转移研究院合作共同完成该项目的还有德国斯泰恩拜斯先进风险技术有限责任公司、欧洲综合风险管理虚拟研究院、法国国家工业环境和风险研究院和德国的 DEKRA Akademie 公司。项目的中国战略合作伙伴是北京市劳动保护科学研究所，项目的主要教育支持方是首都经济贸易大学。

项目取得了以下主要成果：

- 1、准备了 11 门安全中国课程
（涵盖了工业中的一般风险、基于资产/设备的风险、健康、安全、保障和环境风险以及商业/治理风险）；
- 2、举办了 13 次课程
（大部分的课程为期一周，由北京的单位主办：北京市劳动保护科学研究所、首都经济贸易大学、中国石化北京燕山石化分公司、中国石油大学）；
- 3、436 名中国学员参与了上述安全中国课程，其中 422 名学员成功通过了相应的考试
（来自 30 多家不同的公司和研究院所）；
- 4、培训了 23 名安全中国课程的培训教师
（覆盖了 11 门安全中国课程中的 7 门课程，培训教师将继续在中国教授安全中国课程）；
- 5、17 名安全中国课程的参加者在德国和瑞士的公司进行了在职培训
（14 名学员参加了短期在职培训，3 名学员参加了长期在职培训）；
- 6、21 名学员满足相应条件获得了资格认证，其中 15 名学员获得了风险核查师的资格认证，6 名学员获得了高级风险评估师的资格认证；
- 7、从 2012/2013 学年开始将安全中国课程纳入中国大学的教学计划
（首都经济贸易大学）；
- 8、在中国设置了 2 个安全中国项目办事处，在德国设置了 1 个安全中国办事处
（负责组织、协调和管理在中国和德国的教育、培训和认证）

安全中国项目涉及了 500 多人（涉及利益相关者、培训参与者、培训教师、主办方等）、30 多家中国公司、7 家德国公司、3 所中国大学，以及德国和中国的政府及相关机构。中德双方通过该项目都取得了重要的经济、社会和政治效益，特别在将欧盟和德国健康、安全和环境领域的法规知识传播到中国方面，该项目发挥了积极的作用。

安全中国项目成果的延续，将在成立合资公司（“北京斯泰恩拜斯先进风险技术有限责任公司”）的框架下，通过德中双方主要合作伙伴间商业化的持续合作得以实现。

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A large number of Chinese partners, governmental agencies, universities, petrochemical industries, different work associations, insurance companies and persons involved, have supported the project in many ways (introducing SafeChina course curricula in education or professional qualification programs, hosting the courses and other events, dissemination actions, organization and communication with course participants...). Among the persons involved we care to mention: Mr. Ding Hui (Beijing Academy of Science and Technology), Mr. Zhang Bin and Ms. Tong Wang (Beijing Municipal Institute of Labour Protection), Ms. Guo Xiaohong, Ms. Wang Yongyi (Capital University of Economics and Business), Mr. Xue Lan, Mr. Peng Zongchao (Tsinghua University), Mr. Xie Jingshan (SINOPEC Corp. Beijing Yanshan Petrochemical Co. Ltd), Mr. Lang Wei, Mr. Shuai Jian (China University of Petroleum).

German partners have contributed to the project by hosting and lecturing on-the-job trainings needed for professional qualification of Chinese experts. At this place we express our gratitude in particular to Mr. Bareiß (EnBW Kraftwerke AG), Mr. Kuhn (BASF SE), Mr. Lerena (SWISSI), Mr. Trechow (GvG) and Mr. Stamer (DEKRA Akademie GmbH).

We are also very grateful to the lecturers and trainees who, while lecturing and/or learning, have created constructive and friendly atmosphere and helped to spread and implement the idea and concept of SafeChina project.

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Die Unterstützung der DEG mbH (Deutsche Investitions- und Entwicklungsgesellschaft mbH, ein Tochterunternehmen der KfW Bankengruppe) ermöglichte den Aufbau der Infrastruktur und sicherte die Ressourcen, die für den erfolgreichen Start, die Durchführung und das Beenden des Projekts nötig waren. Besonderer Dank gilt den Projektverantwortlichen bei der DEG, Frau Veth, Frau Sadzik und Herr Schwab sowie Herr Harms, DEG Country Director (China), die eine große Unterstützung waren und dazu beigetragen haben, die geplanten Projektziele zu erreichen.

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Introduction

SafeChina project is a project funded by Deutsche Investitions- und Entwicklungsgesellschaft mbH in the framework of the Public-Private Partnership Programme (PPP) of the Federal German Ministry for Economic Co-operation and Development.

Main PPP-partners in this project are:

- DEG mbH (Deutsche Investitions- und Entwicklungsgesellschaft mbH, KfW Banking Group), Kämmergasse 22, 50676 Cologne, Germany (hereafter DEG)
- Steinbeis-Hochschule-Berlin GmbH, Gürtelstr. 29A/30 10247 Berlin represented by Steinbeis Transfer Institute Advanced Risk Technologies, Willi-Bleicher-Straße 19, 70174 Stuttgart, Germany (hereafter STI).

Local strategic partner of STI in China is Beijing Municipal Institute of Labour Protection, No. 55 Taoranting Road, 100054 Beijing.

Subcontractors providing support for the realization of the project are:

- Steinbeis Advanced Risk Technologies GmbH, Willi-Bleicher-Straße 19, 70174 Stuttgart, Germany
- European Virtual Institute for Integrated Risk Management, EU-VRI, Willi-Bleicher-Straße 19, 70174 Stuttgart, Germany.

The project started in September 2010 and finished in February 2013.

1 Aim of the project

The project aimed to setup an education and qualification system for HSE-engineers and HSE-professionals in China and to educate Chinese experts for implementation of EU regulation in risk management systems in Chinese companies and government bodies/authorities. The final outcome expected was to achieve understanding of EU regulation so that Germany and other EU countries can import appropriate products and services from China.

To achieve this aim, following objectives of the project were set up:

- establishing a training infrastructure which will be used for project realization in China and in Germany and for continuation of education and training after the termination of the project;
- theoretical training of 200 participants of SafeChina courses (out of which 100 have to pass the final exams), combined with on-the-job training for 20 (based one-week stay)+ 3 (based on four-week or longer stay) of them in the German or other European companies and certification of 20 professionals using certification scheme in accordance with EU criteria;
- inclusion of SafeChina courses in education program of one Chinese university starting from the school year 2012/2013 and education of 5 trainers which will continue SafeChina courses after the end of the project.