Introduction
The Sino-swissnex Center (SsC) started its activities officially on January 2010. It is a joint center between GDUT – Guangdong University of Technology and SUPSI – University of Applied Science of Southern Switzerland with the main purpose to help cooperation between Swiss Universities of Applied Science (but also other universities are supported if required) and Pearl River Delta universities with main aim between SUPSI and GDUT.

The SsC is funded by SUPSI for the salary of an assistant. Prof. Boër is funded in equal part by swissnex–China and SUPSI. GDUT provides logistic and management support.

Main activities and results during 2010

Agreement SCUT – SUPSI
After long negotiations, it was possible to reach an agreement between SCUT – South China University of Technology and SUPSI (see Appendix). SCUT is ranked 24th in China and with a very good reputation specifically in Engineering (ranked 10th within Engineering University).

A delegation from SCUT visited Switzerland and SUPSI on September 23rd, 2010.

Agreement GPNU – SUPSI
After three visits and presentations at GPNU – Guangdong Polytechnic Normal University in Guangzhou, an MOU was signed in July 2010 (see Appendix). The GPNU is an interesting case for the UAS because it has followed a similar path as the creation of the UAS in Switzerland and it is very much structured like an UAS towards practical teaching and training. They have several facilities and cooperation with foreign companies to train high skilled technicians and engineers. It is an opportunity to further explore.

2nd ICME – International Conference on Manufacturing Efficiency
The 2nd ICME took place during the ICE – International Conference on Collaborative Enterprises in Lugano, on June 21–23, 2010. A strong delegation from GDUT took part in the Conference. The participants presented state of the art and their latest research activities in the three efficiencies in manufacturing (Economy, Ecology, Equity) (proceeding in appendix)

Pilot Project HydroNET
Nowadays, water treatment solutions request flexibility, should be adaptive, and have effectiveness for a range of waste water
types and volumes. HydroNET implements a modular systems approach to create a network of smaller, localized, interlinked and waste–specific purification plants by using space saving air flotation technology, and advanced IT solution for real–time, remote management.

With cooperation with Zhangcun Water treatment Plant—the biggest of those kind in the world, carrying treatment capacity of 2.6 million m³ per day—a HydroNET prototype machine was tested with channel water in Dongguan (see Appendix HydroNET in China). In this case, the main objective is to remove TSS—Total Suspended Solids. The result was quite satisfactory as shown in the report by Centre Testing International (CTI)—a third–party quality inspection organization. (see Appendix CTI test report).

Now the HydroNET prototype machine has moved to other water treatment plant, but still under the setting up procedure, in order to test other type of waste water. In this case, the main goal is to remove sulfide and phosphorus.

MSE–MPM
The main challenge in 2010 was the transformation of the MPM – Master of Precision Manufacturing in the more general MSE – Master of Science in Engineering. This was decided after a peer evaluation of European experts that found the MPM very good and sound but it should be integrated within the general MSE. This was easily done but it required modification on the offer of Master not only for Chinese but for all students. It is also a chance because now Chinese students can opt for many other research areas in Mechanical (including still Precision Manufacturing), Electronic, Informatics, Business and Environmental Engineering. Furthermore the MSE is offered by all the Universities of Applied Science and the students can choose modules offered by any of them even if they are registered in SUPSI. In 2010 we have not offered the MSE–China module due to the above changes but we have started preparation for the 2011 that includes also the cooperation with ZHAW – Zurich University of Applied Science and HESSO – University of Applied Science of Western Switzerland. (see Appendix)

Visit of HESSO
In August 2010, we organized a visit of a group ladies engineer and architect from HESSO. The detailed program is given in the appendix (program). The main purpose was to show in the Pearl River Delta the fast development that has taken place both at manufacturing as well as architectural level. The visit took place just few months before the Asian games and therefore the city of Guangzhou was in a frenzy state of construction but for this even more interesting for the architects in particular. (see Appendix with letter from HESSO)
SIAT – Shenzhen Institute for Advanced Technology
It is an institute doing research activities very much applied. They have good cooperation with companies in the Pearl River Delta. It is a large institute providing also education to graduate students and it draws the professors from several universities in the region. We did a first meeting in order to introduce each other and to present the respective activities. Then in the second meeting a small workshop was organized with the participation of EPFL in the area of “internet of things” (see Appendix). A follow-up is ongoing.

CDI – China Development Institute
It is an institute in Shenzhen doing research activities but also consulting for government and private organization in the Pearl River Delta. They are specialized in management issues and economic studies. Our main contact is Dr. GUO Wanda, Guo specializes in the fields of Macroeconomic & Industrial Policy Studies. In recent years, his research is focus on China as a world factory. Guo paid special attention to the relationship between China’s world factory and US, Japan’s industries, to how it will affect China, US and Japan’s economy and politics. He is also interested in the southeast of China, especially the economic relationship among Mainland China, Hong Kong and Taiwan. He is interested to develop and understand better the relationship with EU and Switzerland.

First Academic exchange between GDUT and SUPSI
In 2010 it was possible to organize the first academic exchange between GDUT and SUPSI. A researcher Dr. Andrea Castrovinci was for one month in GDUT exchanging information and giving lectures in the Advanced Material area. Prof. Li was also for one month in SUPSI and visited several laboratories and institutes to prepare possible cooperation. The reports are in the Appendix.
Appendix : Meetings and presentations in the Pearl River Delta

EIC for MPM
Education Fair EIC
Sunday 21 March 2010
Guangzhou

GDUT
Monday 22 March 2010 07:00
Guangzhou

GDUT
Thursday 25 March 2010 04:00
Guangzhou

SCUT presentation students
Wednesday 7 April 2010 03:30
Guangzhou

SCUT discussion MOU
Wednesday 7 April 2010 06:00
Guangzhou

GPNP presentation professors
Wednesday 7 April 2010 09:00
Guangzhou

GPNP presentation students
Thursday 8 April 2010 08:00
Guangzhou

Boi Faltings EPFL
Thursday 20 May 2010 04:30
swissnex

Swiss EF–MP Electrical (Shenzhen)
Monday 24 May 2010 08:00
Shenzhen
EF-MP Electrical (Shen Zhen) Co., Ltd.
No. 20 Lijing North Road
Shenzhen Export Processing Zone
Long Gang, Shenzhen,

GPNP
Thursday 8 July 2010
Guangzhou

Meet the manager of Guangzhou Opera House
Thursday 8 July 2010
Guangzhou

SCUT
Wednesday 7 July 2010  
Guangzhou  

**Dinner GDUT**  
Thursday 8 July 2010  
Guangzhou  

**Mingfeng Chronocheck**  
Saturday 10 July 2010  
Dongguan  

**GDUT**  
Thursday 26 August 2010  
Guangzhou  

**DUT Polythenic**  
Friday 27 August 2010  
Shenzhen  

**CDI Institute**  
Friday 27 August 2010  
Shenzhen  

**Prof. Fang GDUT**  
Wednesday 1 September 2010  
Guangzhou  

**GDUT Master**  
Tuesday 19 October 2010  
Guangzhou  

**HydroNET / MPM Meeting**  
Saturday 23 October 2010  
Dongguan  

**SCUT Master**  
Tuesday 19 October 2010  
Guangdong  

**MSE–MPM presentation**  
Tuesday 19 October 2010  
Guangzhou  

**Zhanchun Hydronet**  
Tuesday 23 November 2010  
Dongguan  

**Einstein opening ceremony**  
Friday 19 November 2010  
Guangzhou  

**Meeting Stone–Shoan for MSE brochure**
Monday 15 November 2010
Dongguan

**Mangrove HydroNET**
Monday 13 December 2010
Dongguan

**HydroNET Zhangcun**
Tuesday 14 December 2010
Dongguan
Appendix: activities related to SsC but outside the Pearl River Delta

ITRI
Tuesday 11 May 2010
Taiwan
15:30-19:00 Visit ITRI-Industrial Technology & Research Institute
15:30-16:10 ITRI Showroom Tour
16:10-16:20 TW Industrial Involvement in FP7 MOEA
16:20-16:30 MSL Intelligent Manufacturing Technology Outlook
16:30-17:10 Visitor Feedback & Open Discussion
17:40-19:00 Dinner hosted by IBC, ITRI

swisssnex day in CH
Monday 8 November 2010
PROGRAM (MORNING) Rolex Learning Center, Ecole Polytechnique Fédérale de Lausanne, EPFL

2nd KFH China Workshop
Friday 2 July 2010 10:20
Bern
Welcome Notes and Introductions – Moderation Prof. Peter Boelsterli
1. Thomas Bachofner, Swiss UAS Secretary General
2. Prof. Dr. Ruedi Nützi, President of the committee Internationalization
3. Elena de la Rosa, SBF, scientific counselor @ ser
Framework Program “Multilingual Typography” by Ruedi Baur
China Activities of the Swiss UAS - an overview and exchange
part 1: FHNW, SUPSI, ZFH, HES-SO, FHL Chinese Delegation Arriving at ZHDK (Zurich University of the Arts), Ausstellungsstrasse 60, 8005 Zurich
Welcome Notes to the Chinese Delegation by Prof. Peter Boelsterli - SUAS China Delegate
Lunch
Meeting between Chinese Delegation and the Workshop Participants
"Higher Education Development Plans under the 12th Five Years Plan and Future Cooperation Strategy with Swiss Universities"
Ms. Wu Zaofeng, Deputy Secretary-General, China Education Association for International Exchange
China Activities of the Swiss UAS - an overview and exchange.
Part 2: FHO, BFH Workshops
1. How to „Go East“: Cultural Skills in China Cooperation Projects Nathalie Bao and Dr. Yasmine Inauen
2. R&D and Education Cooperation among FHS and Chinese Universities Involving also the Private Sectors Prof. Claudio Boer
3. Execution Plan of the Swiss UAS China Program Prof. Mick Jeives Summaries Programme Swiss UAS / China 2010 – 2012 (Peter Boelsterli)

Prof.Chen
Saturday 16 October 2010
Nanchang

teleconference watch training
Thursday 2 September 2010

Prof. Chen
Friday 3 September 2010
Nanchang

China: cooperation watchmaking industry training school
Thursday 2 September 2010
Shanghai
Tower 2
1266 Nanjing Road West

Expo 2010 week
Monday 13 September 2010
Shanghai

Taiwan activities

Speech NTUST students and faculty
Monday 19 July 2010
Taiwan

Taiwan dual degree program
Monday 19 July 2010
Taiwan

Interview applicant Taipei
Monday 19 July 2010
Taiwan
Appendix : Agreement SCUT – SUPSI

Cooperation Agreement
between
South China University of Technology, P. R. China
and
University of Applied Science of Southern Switzerland, Switzerland

For the purpose of on-going long cooperation, South China University of Technology (SCUT) and University of Applied Science of Southern Switzerland (SUPSI) will establish a more permanent relationship to lead these developments and to maintain appropriate communication through visits and regular contacts. On the basis of several meetings, both institutions share a commitment to cooperate and come to a common understanding between our two institutions, on the following terms including and not limited to:

1. explore opportunities for joint research and development;
2. co-organize relevant conferences and workshops;
3. exchange of faculty for learning about different activities;
4. promote any possible exchange or degree programs to SCUT students, including but not limited to model 3+2 (undergraduate and postgraduate combination), 2+2 (undergraduate level) and 1+1+1 (postgraduate level), or visiting PhD students;
5. organize lectures, seminars and courses in SCUT given by SUPSI professors and vice versa;

This Cooperation Agreement shall come into effect on the date of the signatures to the Agreement and shall be valid for a period of four years. However, this Agreement implies no financial obligation on either institution outside what is written. Detail programs about concrete initiatives will be specified in separate documents that will become Annexes to this Agreement.

Signed on behalf of
University of Applied Science Technology
of Southern Switzerland

Signature…………………………………… Signature………………………………..
Franco Gervasoni, Professor
President,
University of Applied Science of Southern Switzerland

LI Yuanyuan, Professor
President,
South China University of Technology

Signed on behalf of
South China University of Technology

SsC Activity Report 2010 9
Date……………………………………… Date………………………………………

In the witness of In the witness of

Signature
Giambattista Ravano, Professor
Dean of Department of Innovation Technologies,
University of Applied Science of

Signature
QIU Xueqing, Professor
Vice President,
South China University of Technology

Southern Switzerland

Date……………………………………… Date………………………………………
Agreement GPNU – SUPSI

Cooperation Agreement

between

Guangdong Polytechnic Normal University, P. R. China

and

University of Applied Science of Southern Switzerland, Switzerland

On the basis of on-going long cooperation, Guangdong Polytechnic Normal University (GPNU) and University of Applied Science of Southern Switzerland (SUPSI) share a commitment to cooperate on the following activities including and not limited to:

- Exploring opportunities for staff and student exchange;
- Exchange of Academic materials, publications and information;
- Organization and implementation of vocational training cooperation projects
- Joint educational programs (for example Master courses).

Following several meetings and coming to a common understanding between our two institutions, it is agreed that GPNU and SUPSI will establish a more permanent relationship to lead these developments and to maintain appropriate communication through visits and regular contacts.

This Cooperation Agreement establishes the commitment of both Guangdong Polytechnic Normal University and University of Applied Science of Southern Switzerland to pursue the development of closer academic links according to the following agreed terms:

- explore opportunities for joint research and development
- co-organize relevant conferences and workshops
- exchange of professors for learning about different activities
- promote Master courses to GPNU students
- organize lectures or seminars in GPNU given by SUPSI professors and vice versa

This Cooperation Agreement shall come into effect on the date of the signatures to the Agreement and shall be valid for a period of four years. However, this Agreement implies no financial obligation on either institution outside what is written. Detail programs about concrete initiatives will be specified in separate documents that will become Annexes to this Agreement.
Signed on behalf of
University of Applied Science
University
of Southern Switzerland

Signature

President

Date

Signed on behalf of
Guangdong Polytechnic Normal

Signature

President

Date
Appendix: Proceedings 2nd ICME–2010

ICE 2010
Collaborative Environments for Sustainable Innovation

ICM*E workshop Proceedings
22nd of June 2010

Organized by:
University of Applied Sciences of Southern Switzerland Institute CIM for Sustainable Innovation

Co-organized by:
Guangdong University of Technology
## ICME 3*E Programme

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Chairman</th>
<th>Notes</th>
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<tr>
<td>8:45-9:15</td>
<td>Registration</td>
<td>C.R. Boer</td>
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<tr>
<td>9:15-9:35</td>
<td>Declare the Opening of Workshop and Introduce the Guests</td>
<td>Guo Zhongning</td>
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<tr>
<td></td>
<td>Sino-swissnex Center of Excellence: development in Manufacturing</td>
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<tr>
<td>9:35-10:30</td>
<td><strong>1st part EQUITY</strong></td>
<td><strong>Chairman: C.R. Boer</strong></td>
<td>15 min + 5min Q/A</td>
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<td></td>
<td><strong>KEY NOTE: Equity- Social aspects of Manufacturing</strong></td>
<td>Tony Waefler</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The influence of culture on enterprise management</td>
<td>C.R. Redaelli, Bodong Shi,</td>
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<tr>
<td></td>
<td>A Risk Matrix Decision on Entrepreneurial Status of Plant in Thailand</td>
<td>ICIMSI-SUPSI</td>
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<td>10:30-11:00</td>
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<td>11:00-12:30</td>
<td><strong>2nd part ECOLOGY</strong></td>
<td><strong>Chairman: C.R. Boer</strong></td>
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<td></td>
<td><strong>KEY NOTE: The meaning of Life cycle thinking in manufacturing - practical examples</strong></td>
<td>Jacques RICHARD</td>
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<td></td>
<td>Hydraulic and Lubrication Systems Contamination Control in modern Steel Plants</td>
<td>Huang Zhijian, GDUT</td>
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<td>Transitioning to Sustainable Production - Analysis of Requirements and Constraints of the Replacement of the Mineral by Vegetable based oil</td>
<td>Janaina Fracaro de Souza, Instituto Tecnológico de Aeronáutica, Centro de Competencia en Manufatura</td>
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<td></td>
<td>The status and development tendency of sustainable manufacturing in GuangDong Province</td>
<td>Guo Zhongning, GDUT</td>
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<td>12:30-13:30</td>
<td><strong>Lunch break</strong></td>
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<tr>
<td>13:30-15:15</td>
<td><strong>3rd part ECONOMY</strong></td>
<td><strong>Chairman: Guo Zhongning</strong></td>
<td>15 min + 5min Q/A</td>
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<td><strong>KEY NOTE: Economy - Status and Development of Machine Tool Industry in Switzerland and China</strong></td>
<td>Ivano Beltrami, AGIE/SUPSI</td>
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<td>A New Type of Wire Electrical Discharge Machining Tool</td>
<td>Zhang Yongjun, GDUT</td>
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<td></td>
<td>Microelectronic packaging technology and mechanism design in GDUT</td>
<td>Li Ketian, GDUT</td>
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<td></td>
<td>From vulcanized rubber to thermoplastic elastomer: a sustainable approach to advanced roller manufacturing</td>
<td>Andrea Castrovinci, SUPSI-ICIMSI</td>
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<td>15:15-15:45</td>
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<td>15:45-17:30</td>
<td>A novel micromachining technology with the instantaneous tiny-grinding wheel based on the electro-magneto-rehological effect</td>
<td>Yan Qiusheng, GDUT</td>
<td>15 min + 5min Q/A</td>
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<td>Innovative concepts for High Precision Grinding Center</td>
<td>Luca Diviani, SUPSI-ICIMSI</td>
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<td>Status Quo and Development Tendency of Manufacturing informatization in GuangDong Province</td>
<td>Chen Xindu, GDUT</td>
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<td></td>
<td>Production Planning and Control for Mould Manufacturers</td>
<td>Chen Qingxin, GDUT</td>
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KEY NOTE SPEAKERS

The workshop 3*Efficiency in Manufacturing = Ecology + Economy + Equity in Manufacturing is divided in three parts, each one presenting one of the three Es through the sustainability.

**Equity**

*Prof. Dr. Toni Wäfler*

University of Applied Sciences Northwestern Switzerland (FHNW)
School of Applied Psychology (APS Institute Humans in Complex Systems (MikS))
Riggenbachstrasse 16 4600 Olten Switzerland

**Short Curriculum Vitae**

Prof. Dr. Toni Wäfler is lecturer and researcher at the University of Applied Sciences Northwestern Switzerland (FHNW), School of Applied Psychology (APS), where he established the Institute “Humans in Complex Systems (MikS)”. The Institute conducts research projects in the domain of human factors, sociotechnical system design, collaborative planning processes, occupational health, and safety. In 1998 Toni Wäfler was also co-founder of iafob GmbH (www.iafob.ch) a private consulting company in Zurich, Switzerland, were he still is a senior consultant. As a consultant his main topics include organizational and job design in highly automated work system; with a main focus on process efficiency and reliability as well as on system safety.

**Ecology**

*Prof. Jacques Richard*

HES at hepia/HES-SO in mechanical engineering
Responsible of manufacturing and eco-engineering courses at bachelor and master level.

**Short Curriculum Vitae**

Born: 1957 in Lausanne (CH)
1983: Graduate in Theoretical Physics, University of Geneva
1984-1999: Industrial experience in manufacturing (development of mathematical kernel of CAD-CAM software)
2000-2003: Research scientist in hepia/HES-SO involved in many research projects with industrial partners.
2004-today: Professeur HES at hepia/HES-SO in mechanical engineering in charge of manufacturing and eco-engineering courses at bachelor and master level. Leading several industrial projects in parallel to the teaching.

**Economy**

*Dipl. Phys., Dr. Sc. Tech. Ivano Beltrami*

Director of ISEA - Institute for Systems and Applied Electronics at SUPSI - University of Applied Sciences and Arts of Southern Switzerland
Head of Research, +GF+ AgieCharmilles, Losone, Switzerland

**Short Curriculum Vitae**

1971-1982: Study and PhD in Physics, ETH-Zürich
1982-1986: Research Associate at SLAC, Stanford, USA and CERN, Geneva
Since 1986: AgieCharmilles, Losone, Switzerland, with various responsibilities in R&D activities.
Main topics during these years were: Modeling and regulating Electro Discharge Machining, Enhancing precision and performances of EDM Machines and Down scaling EDM into Micro Applications
Since 2010: partially at SUPSI and partially at AgieCharmilles
Appendix: Hydronet in China

The HydroNET prototype was installed in the waste water treatment Zhangcun in the outskirt of Dongguan City. The installation was done by technicians from SUPSI and KWI. It was also the first assignment of SHI Bodong (Stone). Here some of the photos recording the installations and testing.
Appendix : Centre Testing International (Shenzhen) Limited TEST REPORT

检测报告
TEST REPORT

报告编号 Report No: HLSZC00004265

委托单位 Client:
东莞市东江水务有限公司樟村水质净化厂

地址 Address: 东莞市东城区樟村大王洲桥旁

样品名称 Sample Name: 瑞士设备HYDROFLOAT HYD-06处理废水车间废水的进水水样

编 制: Complied by

审 核: Inspected by

签 发: Approved by

采样日期: 2011年01月07日 Sampling Date: Y M D

检测日期: 2011年01月07日～01月12日 Testing Date: Y M D M D

地址: 深圳市宝安区70区域工业区建栋
Building P, Hongwei Industrial Zone, Bacon 70 District, Shenzhen
检测结果

报告编号： HLSZC00004265

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<th>采样方法</th>
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<td>尹海波，舒利钢</td>
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<td>发黑有浓烈氨气味</td>
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<td>顿时</td>
<td>无色无异味</td>
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Building F, Hongwei Industrial Zone, Baosan 70 District, Shenzhen
检测结果

报告编号：HLSZC00001265

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<tr>
<td></td>
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<td>色度</td>
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<td>倍</td>
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<td>悬浮物</td>
<td>2764</td>
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<td>总氮</td>
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注：1. 采样方式为瞬时随机采样，只对当时采集的样品负责。
2. "---" 表示GB8978-1996执行标准中未对该项目作限制。
3. **本报告检测数据到此结束**

深圳市宝安区70区鸿威工业园B座
Building F, Hongwei Industrial Zone, Baoan 70 District, Shenzhen
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<td>工业废水</td>
<td>总氮</td>
<td>水质 总氮的测定 钝性过渡酸钾滴定法 GB 11894-1989</td>
</tr>
</tbody>
</table>

2. Place of the testing

CTI 实验室 中国深圳市宝安区 70 区鸿威工业园 A 栋
CTI Laboratory Building F, Hongwei Industrial Zone, Baoan 70 District, Shenzhen, China.

3. This report is considered invalid without the Special Seal for Inspection of the CTI.

4. This report shall not be altered, increased and deleted.

5. The results relate only to the items tested.

6. This report shall not be published as advertisement without the approval of CTI.

7. This report shall not be copied partly without the written approval of CTI.
Appendix: Brochure for the MSE 2011 China module

Master of Science in Engineering
Industrial Technology for Precision Manufacturing

2011 工学硕士 精密制造

SUPSI University of Applied Sciences and Arts of Southern Switzerland
Appendix : Detailed Program Visit HESSO

1st day Guangzhou
Sunday 1 August 2010
The Guangdong province alone represents 1/8th of the whole GDP of China. Many advanced industries are set in the Pearl River Delta (PRD) that takes not only Guangdong Province but all the other around including HongKong. It is the region where Deng Xiao Ping started the revolution (precisely in Shenzhen) that has brought China in the present economic condition today.
Night in Guangzhou Colorful Days Hotel, location at Dongdu Grand World International Food Street No.475, Huanshi Road
http://www.colorfuldays-hotel.com

2nd day Guangzhou
Swiss General Consulate
Monday 2 August 2010 03:00
09:00 - 10:00 Welcome by Ulrich Hunn, General Consul of Switzerland in Guangzhou and Pierre Chabloz, Vice-General Consul. Presentation of the development of the Pearl River Delta.

Sino–Swissnex Center and activities of swissnex–China
Monday 2 August 2010 04:00
Claudio R. Boer presentation of the Sino-swissnex Center and activities of swissnex-China

Pearl River New Tower
Monday 2 August 2010
Transport to Pearl River New Tower
14:00 - 16:00 Visit Pearl River New Tower is located in Pearl River New City
Presentation by Ms.Hou at Fuli Yinglong Plaza Visit Construction Site

3rd day Dongguan
Visit SAE – Harddisk Manufacturer
Tuesday 3 August 2010
09:45 - 11:45 Visit SAE – Hard disk manufacturer
Dongguan

Visit HydroNET
Tuesday 3 August 2010 10:15
16:15 - 18:15 Visit HydroNET – waste water treatment plant Sino-Swiss cooperation project
4th day Guangzhou
Guangzhou Opera House
Wednesday 4 August 2010
09:15 - 10:45  Visit of the Guangzhou Opera House

Guangdong New Museum
Wednesday 4 August 2010 08:30
11:30 - 12:00  Transport to Restaurant
12:00 - 14:00  Lunch
14:00 - 14:30  Transport to Guangdong New Museum
14:30 - 16:30  Visit the Guangdong New Museum
SUPSI
Monsieur Prof. Claudio Boer
Directeur ICOMSI

Delémont, le 27 octobre 2010

Voyage d'études dans le sud de la Chine

Monsieur, cher Claudio,

Au nom de toutes les participantes au voyage d'études dans le sud de la Chine en août dernier, je tiens à vous remercier chaleureusement pour votre disponibilité et la grande aide que vous m'avez apportée dans mon organisation. Sans votre appui, je n'aurais sans doute pas pu avoir accès aux entreprises, ni aux personnalités que nous avons rencontrées.

Nous devons ces moments privilégiés et si enrichissants pour de jeunes ingénieures à votre grande connaissance du monde économique de la province du Guangdong et au réseau que vous avez su tisser avec les chef-fe-s d'entreprise de cette région.

Votre appui ne s'est pas arrêté aux aspects techniques. Vous avez pris le temps de nous accompagner, éclairant nos visites de votre grande expérience acquise durant plusieurs années sur place, que ce soit au plan économique, culturel ou sociétal. Vous avez ainsi su transmettre aux jeunes que j'accompagnais votre goût de la découverte et des paroles de cette culture chinoise si complexe à aborder pour des non initiés.

Notre parcours dans le sud s'en est trouvé considérablement enrichi et je vous en suis très reconnaissante. Je suis convaincue que c'est en enseignant aussi à la jeunesse l'importance du dialogue, de l'ouverture et de la compréhension avec d'autres que nous les préparons dignement à leur futur métier en ingénierie ou architecture.

En vous réitérant mes remerciements, je vous prie d'agréer, Monsieur, cher Claudio, mes salutations les meilleures.

Sylvie Villa
Responsable du domaine Ingénierie et architecture
Study trip in China - 2010

Saturday 31st July – Sunday 1st August
Transportation from Switzerland to Guangzhou (flights still to confirm).
QR48, 31, JUL, GDOH (1140-1850) Genève - Doha
QR874, 01, AUG, Doha - Guangzhou

The Guangdong province alone represents 1/8th of the whole GDP of China. Many advanced industries are set in the Pearl River Delta (PRD) that takes not only Guangdong Province but all the other around including Hong Kong. It is the region where Deng Xiao Ping started the revolution (precisely in Shenzhen) that has brought China in the present economic condition today.

Night in Guangzhou (to confirm)

Monday 2nd August - Tuesday 3rd August
Welcome by Werner Nievergelt, General Consul of Switzerland in Guangzhou, whom has followed the development of the Pearl River Delta

Welcome by XXX Sino-Swissnex Center in GDUT - Guangdong University of Technology in the new Higher Education Megacenter of Guangzhou.

In the capital of the province there is Guangzhou that is as large as Shanghai and it is undergoing a profound transformation in many senses.

One that is most evident is the architecture and the landmark like the Guangzhou TV Tower to be open very soon (http://gztvtower.info/). Architecture and civil engineers will be certainly much interested in this mathematical structure.
The whole center of Guangzhou is transformed creating an open space surrounded by gracious building and two twin towers with one already finished and open in June this year. The new PearlRiver New Tower is one of the most advanced environmental building with zero-energy super-tall building and other environmental conservation aspects like water, solar and wind:
http://www.som.com/content.cfm/pearl_river_tower
And then there is the new Guangzhou Opera House designed by architect Zaha Hadid, a woman ;-)  

Nights in Guangzhoo (to confirm)

Wednesday 4th August
Transportation to Dongguan

Welcome by Claudio R. Boër, Prof., Dr. Ing., MAS, Ph.D.
Presentation of how Swiss technology can help to improve the conditions in one of the most polluted area of China but also one of the region that is most concerned with developing a low-carbon economy: SUPSI CTI project on waste water treatment with EAWAG and cooperating with chinese partners in the Guangdong Province and precisely in Dongguan, one of the most fast developing cities in the region, heart of the 3C (Computer, Communication, Consumer) electronic industry.

Night in Dongguan (to confirm)

Thursday 5th August
Transportation to Shenzhen

Welcome by YYY, BYD Company
BYD - Build Your Dream (is their motto!). It is a large company that started on battery manufacturing and consumer electronic and has entered rather recently the car business. They have developed also a line of hybrid and fully electric cars (even if they are stepping down or slowing from the fully electric ones due to lack of government support).

Flight from Shenzhen to Hangzhou.

Night in Hangzhou
International Youth Hotel
Nanshan Rd 101

The hotel
Appendix: SIAT – Shenzhen Institute of Advanced Technology

1st meeting
Monday 11 October 2010
9:50 Arriving SIAT
10:00-10:20 welcome message from Prof. FAN Jianping
      brief introduction of SIAT (video or slides)
10:20-10:40 address from Prof. Claudio R. Boer
10:40-11:00 discussion session
11:00-12:00 Lab tour
12:00-12:05 group photo in lobby
12:05-13:40 welcome lunch

2nd meeting
"Sino Swiss Science and Technology Cooperation: Today and Tomorrow"
Monday 22 November 2010
1. Introduction: Sino Swiss Science and Technology Cooperation, Past and Future (10min), Prof. Claudio Boer, Director Sino Swiss S&T Cooperation swissnex China, Consul of Consulate General of Switzerland in Shanghai
2. Cutting-Edge Research in Information Technology in Switzerland (15min), Prof. Boi Faltings, Member of Executive Committee of Nano-Tera
3. MICS – Swiss Competence Center in Mobile Information and Communication System (25min), Dr. Guillermo Barrenetxea, Senior scientist and representative of the MICS program
5. Q&A and Discussion
Appendix: First Academic exchange between GDUT and SUPSI

Report Dr. Andrea Castrovinci

Introduction
SUPSI and GDUT signed a Cooperation Agreement (CA) on the 1st October 2009, which includes staff exchange.
On the basis of the SUPSI–GDUT agreement, GDUT formally invited Andrea Castrovinci to GDUT for a period of time within the 1st October to the 15th November 201 (cfr. GDUT Invitation Letter in the Annex section).

This report provides a detailed description of Andrea Castrovinci’s sabbatical period at the GDUT, from the 8th October to the 4th November 2010.
The report includes info about scientific and educational activities as well as organization, travel, local support and accommodation.
Side activities, including visit to South China University of Technology (SCUT), East China Institute of Technology (ECIT) and Vibram, are also described.
An overall evaluation of the professional experience is also provided.

GDUT sabbatical period activity report

Faculties Involved
Two GDUT Faculties have been involved in the visiting program: Faculty of Electromechanical Engineering and the Department of Polymeric Materials and Engineering of the College of Materials and Energy.

Educational activity
Lectures
• About 8 hours of lectures at bachelor and master students were provided to both classes. Topic covered: introduction to polymeric materials.
• 8 hours of lectures at Master and PhD students mixed class were provided. Topic covered: advanced on polymers degradation and flame retardancy.

Seminars
• Three general seminars were given to the Faculty of Electromechanical Engineering, presenting SUPSI–DTI–ICIMSI and Andrea Castrovinci research and educational activities.
• One general seminar was given to the Department of Polymeric Materials and Engineering of the College of Materials and Energy, presenting SUPSI–DTI–ICIMSI
with a focus on Andrea Castrovinci research and educational activities.

Research activities and potential collaboration
The exploration of potential collaboration on R&D projects was part of the visiting period. Faculties seminars followed by open discussions were used as catalyst of potential interactions.

• The Faculty of Electromechanical Engineering has no research topics directly linked with the R&D activities of Andrea Castrovinci, however it could be a partner for other DTI staff’s members. The ongoing visit of a GDUT professor to DTI/SUPSI might define better possible fields of interaction.

• The Department of Polymeric Materials and Engineering of the College of Materials and Energy has some R&D activities in common with DTI–ICIMSI. The Department has a quite well equipped series of laboratories, that integrate SUPSI facilities in the area of materials science and technology. Therefore, the interaction among the materials staff experts of SUPSI (DTI) and GDUT (Materials and Energy college) can be considered. The realization of an effective collaboration, however, must be preceded by a more deep exchange of information related to the ongoing research activities, results and operational capability of GDUT staff. The group has expressed the willingness to collaborate in R&D activities, based on research projects and exchange of PhD students and post–docs. However, it has been stressed the funding issue: expenses for visiting students/staff from GDUT to SUPSI should be covered by R&D project or SUPSI budget. At the time, SUPSI should find funding within European and National funding schemes.

Travel and Accommodation
Accommodation at GDUT campus was under the responsibility of GDUT. The initial agreement was on an apartment in the GDUT Staff buildings. Due to an internal organization failure, the apartment was not prepared. I was finally accommodated for the whole period in a comfortable hotel. A bus direct service from the hotel to the GDUT was daily or on–demand organized. The room fees has been taken by GDUT.

Comments
The GDUT organization of the visiting period showed some lack in coordination and focus. As a consequence, the time spent at GDUT was not fully exploited. For example, despite
a clear profile of Andrea Castrovinci research interests and activities was provided at least a month before the visit started, the first meeting with the staff of Materials and Engineering staff was planned on the beginning of the third visiting week (delay of two weeks with respect of the arrival date).

Educational activities.
Lecturing to bachelor and master students allowed to demonstrate the SUPSI training capability, particularly referring to the Master in Precision Manufacturing. Direct lecturing seems to stimulate interest about SUPSI, providing an effective example of the SUPSI learning opportunities for Chinese students.

Research activities.
GDUT staff is willing to focus on research activities with SUPSI, however two major issue have to be considered:
- For a number of professors spoken English has not yet reached a sufficient level. It is still quite difficult to have a clear picture of the Chinese staff research projects (e.g. publications on Chinese journals, while international journals publications are relatively rare)
- Funding: SSSTC / EC FP7 presents opportunities to get funding for international cooperation. The economical support still remains the major obstacle to the exploitation of R&D collaborative projects

Recommendations
Further visiting sections should be concentrated within 10 days, providing a clear agenda of the planned activities, including a definition of the faculties/groups that should be involved in the program.
The organization of general seminars, advanced lectures for PhD students, laboratories visits and presentations of R&D activities must be planned before the visit start.
**SCUT: presentation of the MPM**

The visit had the objective to present the Master in Precision Manufacturing to SCUT students. Prof. Boër and Dr. Castrovinci gave a talk on the Precision Manufacturing concept and on the Materials for Precision Manufacturing. The MPM introduction was integrated by Shi Bodong, who presented his experience as Master Student. This initiative is part of the promotional activity of the MPM usually provided by Prof. Boër.

**Visit to East China Institute of Technology (ECIT)**

**Background**

Prof. Claudio Boër networking activities brought him to meet Prof. Huanwen Chen of the East China Institute of Technology. Following this first contact, Prof. Boër encouraged University of Applied Sciences and Arts of Southern Switzerland (SUPSI) and the East China Institute of Technology to jointly prepare a SSSTC IP proposal (http://www.global.ethz.ch/stc/china). Eventually Andrea Castrovinci (SUPSI) and Prof. Huanwen Chen submitted a IP proposal on the 30th September, which is still under evaluation.

**Activity Description**

On the 16th October 2010 Prof. Claudio R. Boër – Director of ICIMSI and Switzerland’s Outpost for Science, Technology and Culture in China, annex to the Consulate General of Switzerland, and Andrea Castrovinci – Researcher at ICIMSI, visited the ECIT. The visit was organized by ECIT, who invited Prof. Boër and Dr. Castrovinci to give a talk, respectively on the Precision Manufacturing concept and on the Materials for Precision Manufacturing. The aim of the visit was twofold: i) introduce SUPSI to a wide number of students and staff of the ECIT, presenting international educational opportunities provided by SUPSI; ii) visit the ECIT laboratories and discuss about possible collaboration.

**Outcomes**

Education: ECIT has declared is interest in opening a student exchange program, that can be carried out through ECIT – SUPSI agreement, based on the Master In Precision Manufacturing.

Research: Dr. Castrovinci proposed to integrate his know–how in flame retardants of polymeric materials with the
analytical chemistry approach of Prof. Huanwen Chen group, based on tailor made Mass Spectroscopy facilities. Mass Spectroscopy can found applications in the detection of flame retardants in polymeric materials for safety and certification purposes. The SSSTC IP project, if funded, will be the base to define focused applied research activities in this area.

**Visit to VIBRAM R&D centre**

VIBRAM and ICIMSI have ongoing technical activities, based on a Master thesis focused on the development of a tailor made testing apparatus for soles characterization. The Head of VIBRAM R&D, Antonello Ghignone, invited us to visit VIBRAM R&D centre in China (1 hour by car from GDUT). VIBRAM is willing to set up a direct collaboration with local academics.

To help VIBRAM, we organized a visit to its centre, together with two professors of the Materials and Energy college. VIBRAM and GDUT are now planning other meetings, foreseeing future collaborations (cfr. VIBRAM e-mail, annex section).

**Personal Experience**

The visiting period has been a unique occasion to get the first contact with the Chinese academic environment (and this include also side activities, not directly linked with GDUT). From this point of view, the experience is positive and fruitful.

The fund rising step (SSSTC, EC) remains the only possibility to fully exploit the exchange program through concrete research project.
**GDUT Invitation letter**

August 17th, 2010

Dear Mr. Andrea Castrovinci,

We are pleased to invite you to visit Guangdong University of Technology (GDUT) during October 1st to November 15th 2010 to give lectures and continue discussions on cooperation in the framework signed between University of Applied Science of Southern Switzerland (SUPSI) and GDUT.

As engineering oriented universities, University of Applied Science of Southern Switzerland (SUPSI) and GDUT have been searching mutual cooperations. We hope that deeper mutual understandings can be reached through your visit so as to further improve our cooperation programs.

Looking forward to your visit.

Sincerely yours,

Fang Lingling

Director of Foreign Affairs Office
Guangdong University of Technology
No.100 Waihuan Xi Road
Guangzhou Higher Education Mega Center
Panyu District, Guangzhou
China 510006
Tel:86-20-39322766
Fax:86-20-39322767
**Report Prof. Li Ketian - GDUT**

During one month period of staying in SUPSI, I finished following works:

- I visited the laboratories of ICIMSI, IDSIA, ISEA and ISIN, etc. About IDSIA, ISEA and ISIN, I found that the researchers and engineers are studying the artificial intelligence, robotics, embedded computer systems, RFID and GPS applications, and precision miniaturized systems, etc. some of the research are ranked in the top position of the area.

About ICIMSI, I have had deep conversation with several professors, such as Prof. Luca Diviani, Prof. Marco Colla, Prof. Hugo Wyss and Prof. Marco Silvestri, etc.

- Prof. Luca Diviani introduced the researches of his team and himself. I am interested in his works of linear and non-linear static analysis, stationary and transitory thermal analysis, and simulations. I also do the works of mechanical design and structure analysis in GDUT.

- Prof. Marco Colla focused his study on industrial control applications; his researches on intelligent control and integration of manufacturing system, software rapid prototyping and parallel processing give me deep impression. I also teach Numerical Control and PLC course in
GDUT, so we have share the same area.

- Prof. Hugo Wyss showed me his work in watch precision measurement and introduced the watch making in Switzerland, it is mostly located in the area from Geneva to Biel. Since precision manufacture is greatly in demand in China, I am interesting in his works very much.

- Prof. Claudio Rolandi researches the field of industrial engineering, especially in pharmaceutical operation and engineering. He kindly invited me taking part in an international conference next month hold in Italy, but I have no time stay in here next month. He introduced a dozen enterprises in Italy for package and furniture manufacturing, it is pity for I have no time to visit.

- Prof. Marco Silvestri works 50% times in SUPSI, and another 50% in University of Parma. His research in mechanism synthesis, automated machines, especial the 6 Dof sensors used in machine tool given me deep impression. His study in package machines shares the same area with me.

I also often talked with several Chinese students.

I also found there is some difference in student education between SUPSI and GDUT, for example, the master student has full responsibilities for the project offered by enterprises, it including the money expense. The tutor’s responsibility is only in instruction. I am sure it can heighten the student’s enthusiasm and activities for their works and studies.

From above activities, I have known a lot of how SUPSI running and what people teaching and researching. ICIMSI keeps high-level applied research, contributing to the development of new products and new process for assisting the enterprises.

I also introduced GDUT, my faculty, and my research work to the people when I meet, I hope it can help the people understand each other and know what we do in GDUT.

Since Switzerland had a long tradition in precision product manufacturing, and Lugano is near with Italy where many famous package enterprises have, I suppose we can develop some kind of cooperation in Precision manufacturing and package engineering.

SUPSI provides me the good opportunities, quiet working environments and comfortable living facilities. That brings me working and living easy and happily, I have a present time spend in SUPSI.

In weekend, I visited Bern, Geneva, Lausanne, Luzern and Zermatt. Switzerland is unique and truly a land like no other, from incomparable beauty of mountainous landscapes, attractive lakes, lush villages, Switzerland has everything that makes me unforgettable.