

Training Innovative Talents:

A Case Study in ISWSNLAB Towards Factory of Things

Lei Shu

¹ Industrial **S**ecurity and **W**ireless **S**ensor **N**etworks **Lab**.

www.iswsnlab.cn

Guangdong Provincial Key Lab. on Petrochemical Equipment Fault Diagnosis,
China

² ALES High-Tech and Service Co. Ltd., China

www.alestech.cn

Self-Introduction



A tiny guy who wants to solve huge research problems

Professor



A runner man who just started my own company

CEO

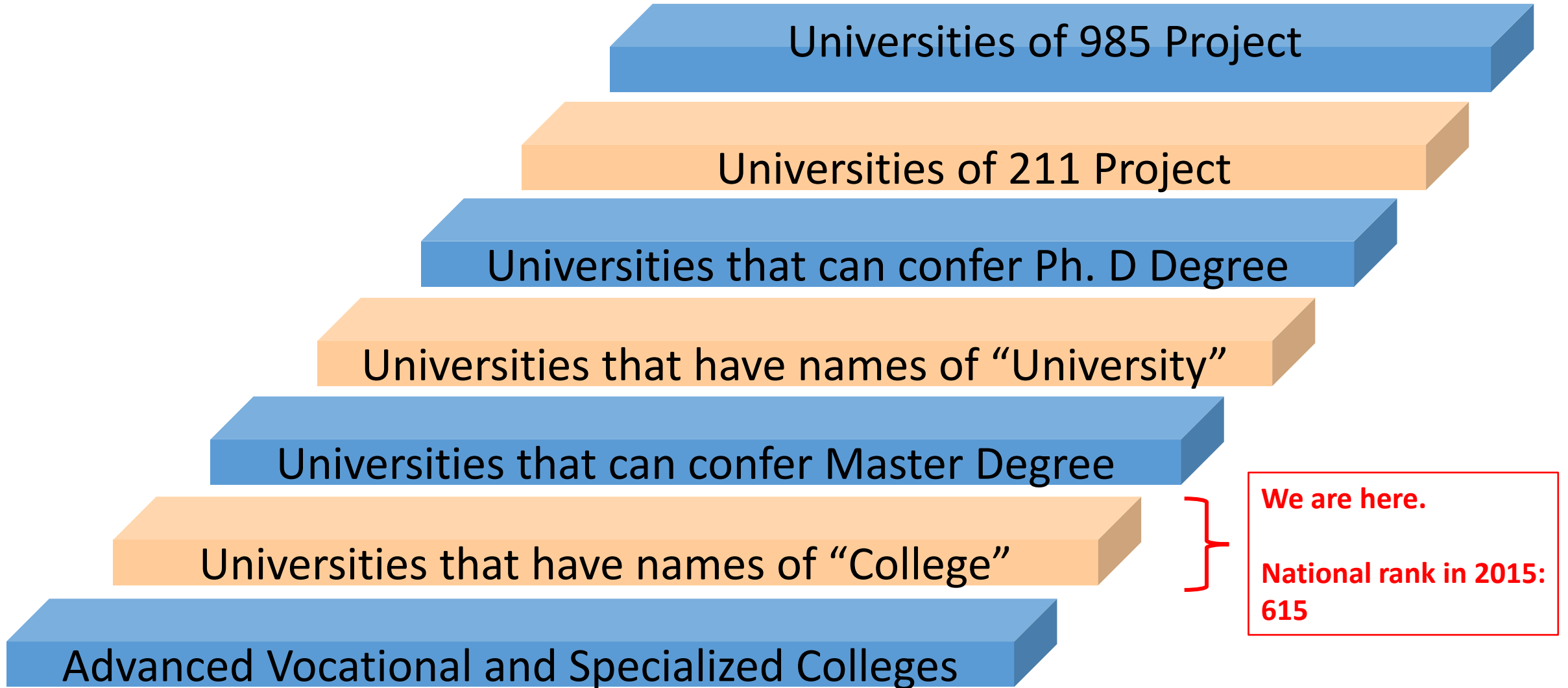
Where and Who

Guangdong Provincial Key Lab. on Petrochemical Equipment Fault Diagnosis, China



Our Rank

◆ 7 Ranks of University in China



Difficulties and Advantages

Difficulties

- ◆ Have no Master and Ph.D programs
- ◆ Far from major cities of China
- ◆ Poor transportation condition

Advantages

- ◆ Unique university geographic location provided us an industrial background with particularly favourable natural conditions

Local Industry as Collaborator



中国石化茂名分公司
SINOPEC MAOMING COMPANY

中国石化集团茂名石油化工公司

中国石化股份有限公司茂名分公司

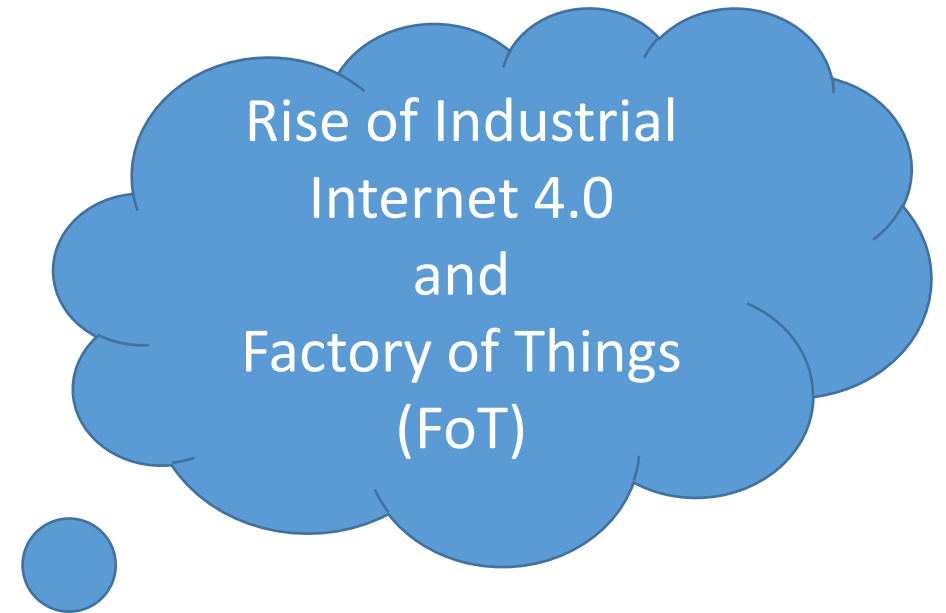
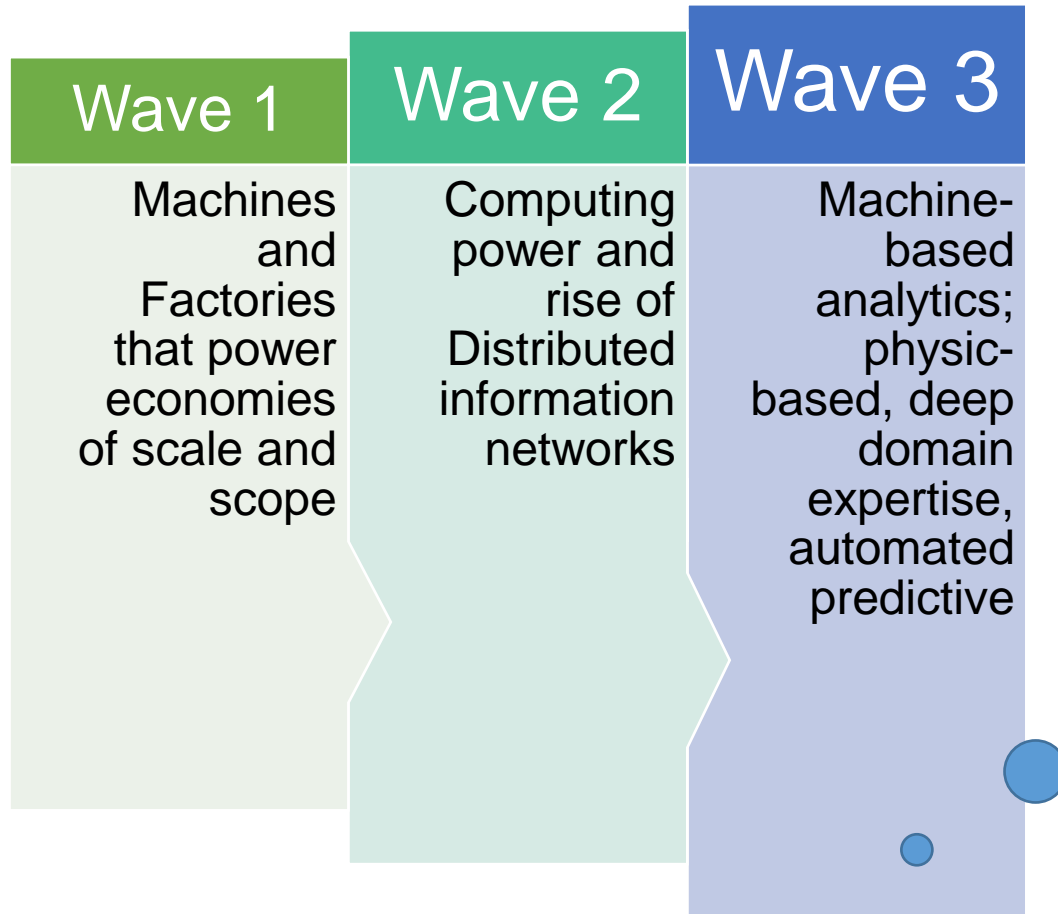
Huge Potential in Petrochemical Industry

What if... Potential Performance Gains in Key Sectors			
Industry	Segment	Type of Savings	Estimated Value Over 15 Years <small>(Billion nominal US dollars)</small>
Aviation	Commercial	1% Fuel Savings	\$30B
Power	Gas-fired Generation	1% Fuel Savings	\$66B
Healthcare	System-wide	1% Reduction in System Inefficiency	\$63B
Rail	Freight	1% Reduction in System Inefficiency	\$27B
Oil & Gas	Exploration & Development	1% Reduction in Capital Expenditures	\$90B

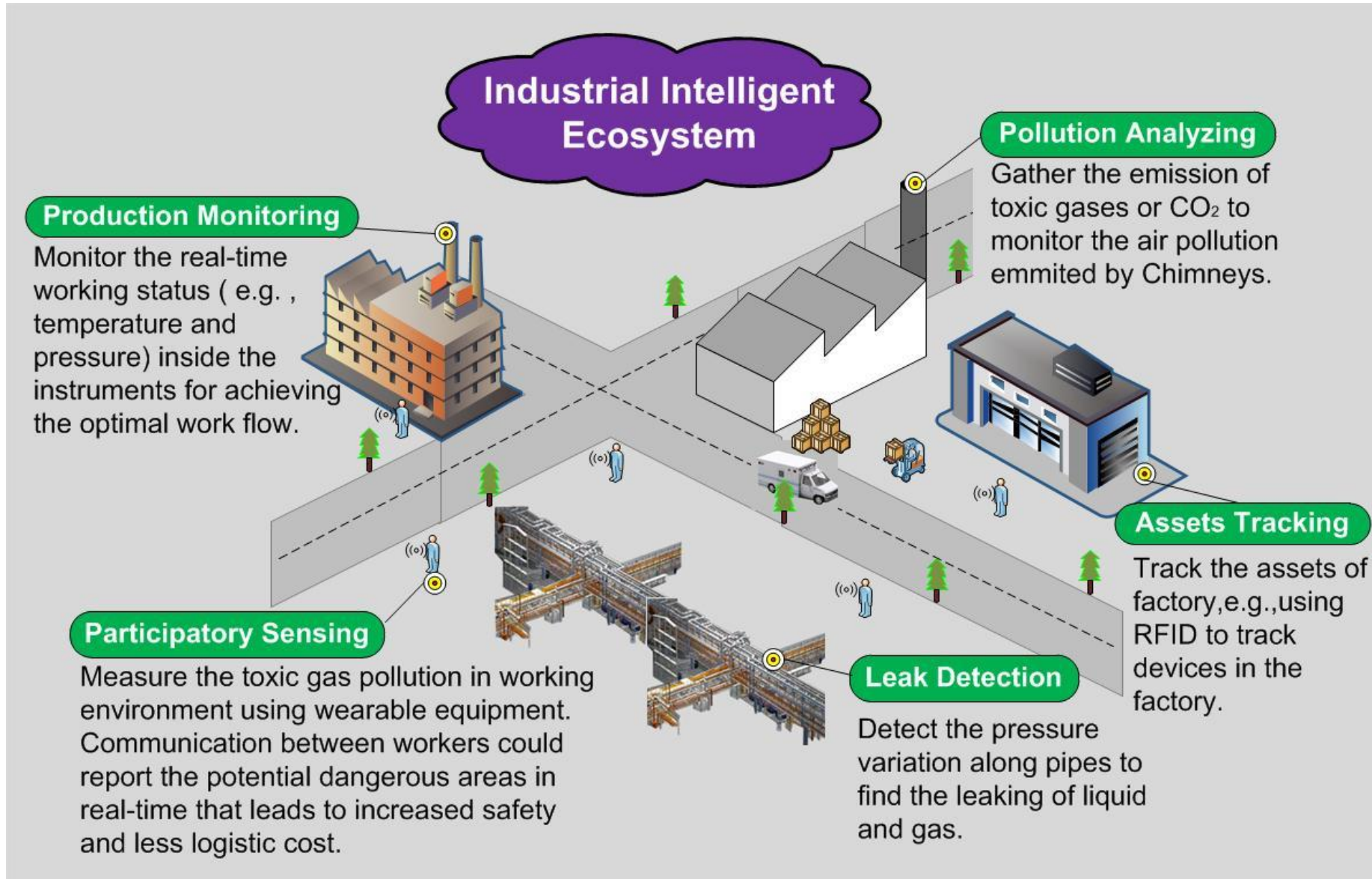
Oil & Gas Industry

\$90B

Waves of Innovation and Change in Industry

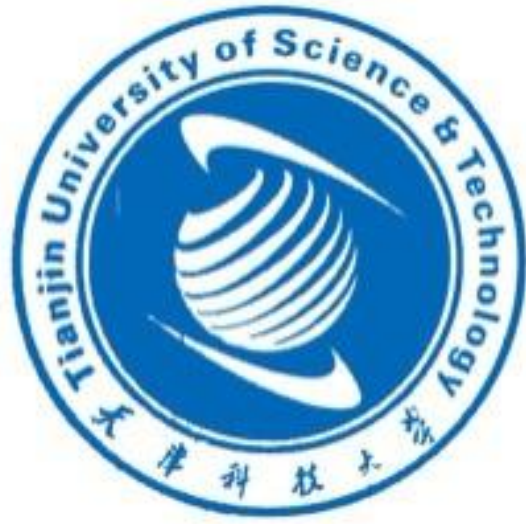


Our Research: Factory of Things

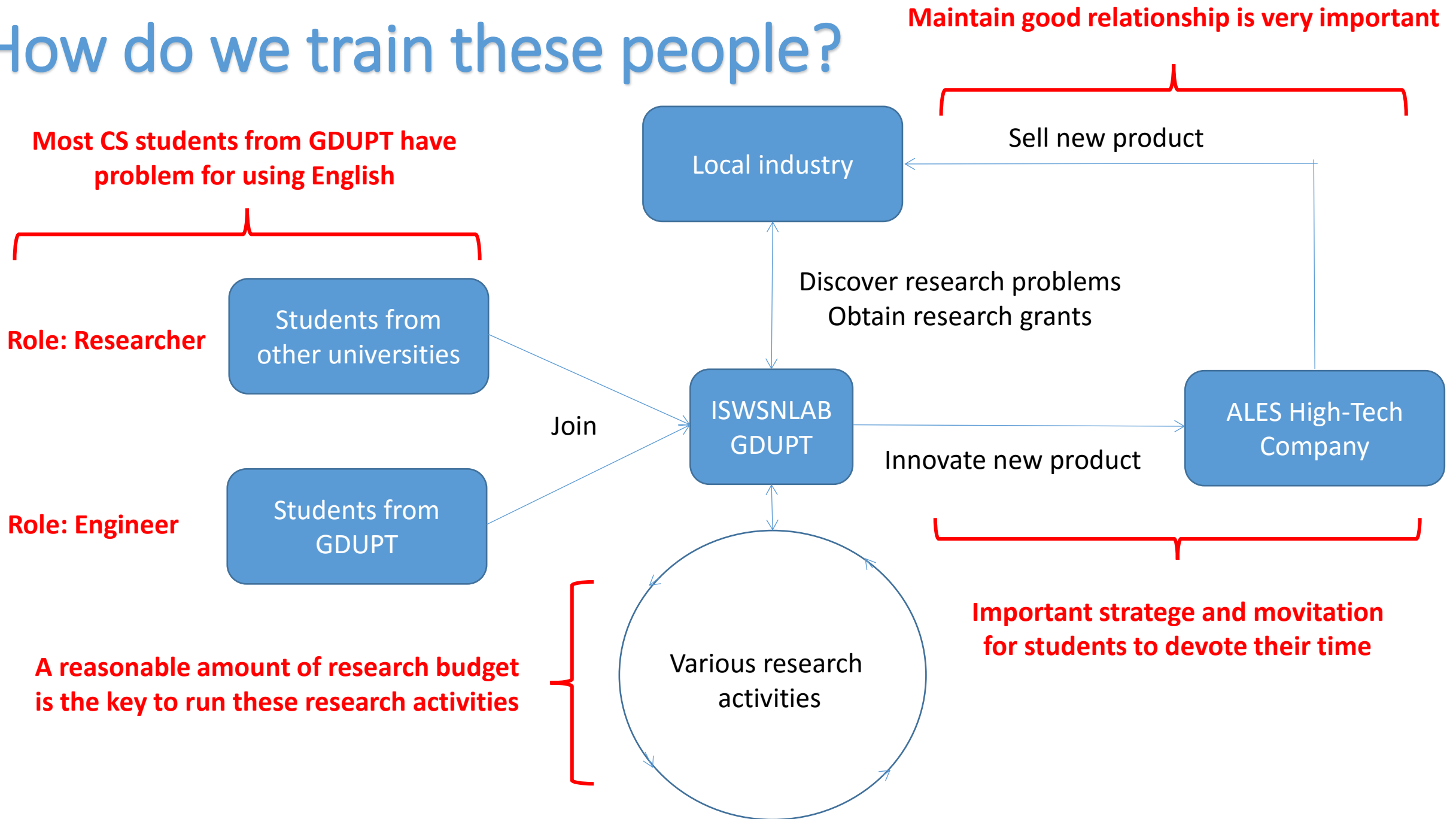


How do we get people?

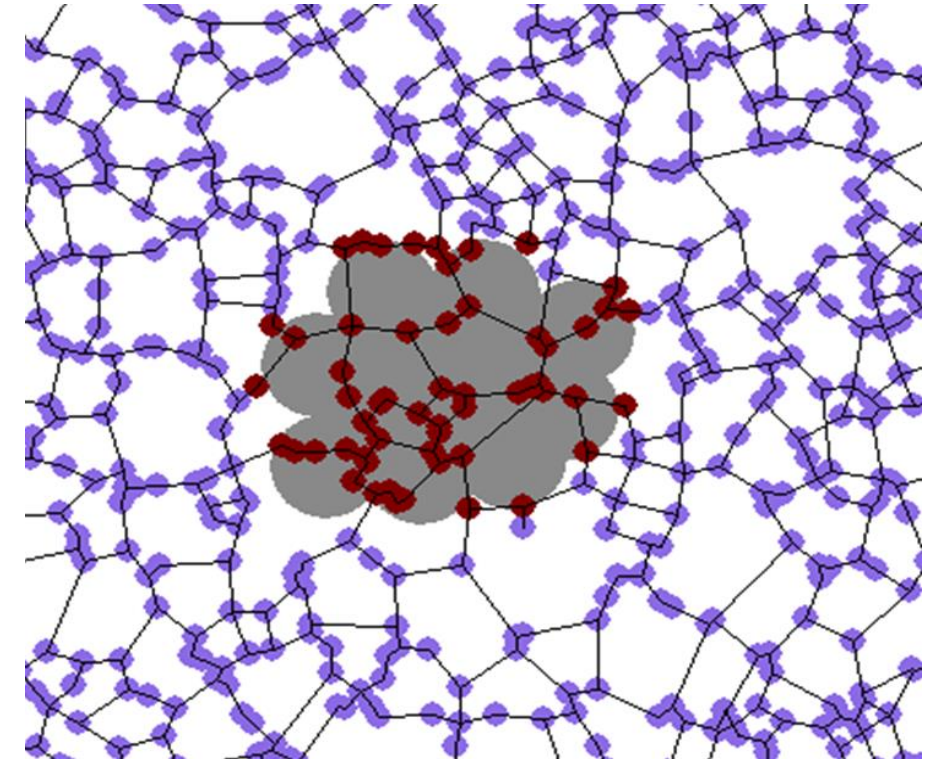
**Collaboration
and
Crowdsourcing**



How do we train these people?



Research Result One: Toxic Gas Map



Toxic Gas Boundary Detection Scheme

Toxic gas monitoring, early warning and evacuation of personnel in the plant area

Research Result Two: Nosie Map

DBMAP 噪声地图

当前显示最近5次用户上传记录

用户：小明

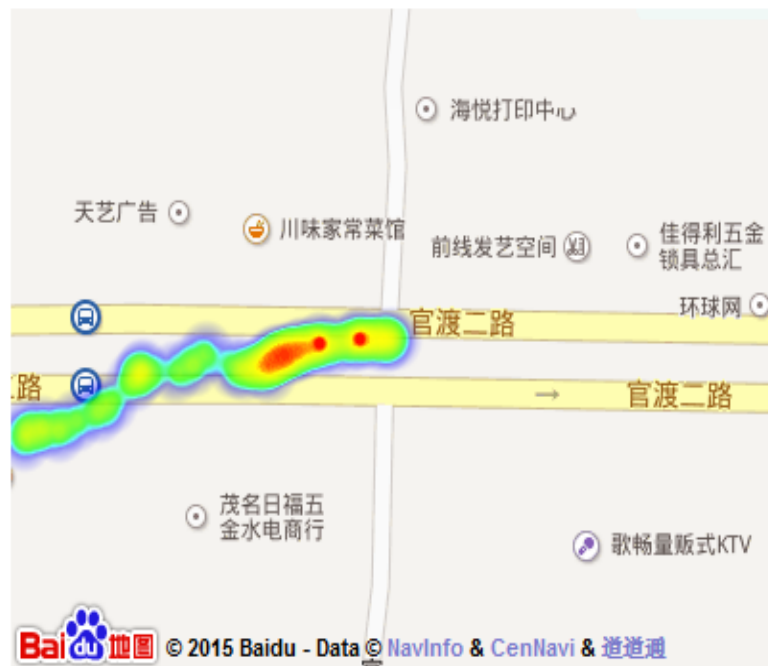
测量时长：879秒

总数据个数：879个分贝数据

开始时间:2015-11-09 06:59:54

截止时间:2015-11-09 07:14:37

分贝坐标折线图



Company Profile

名聚乐世高新科技服务有限公司是一家由软件博士
专业从事基于无线传感网络的环境监测设备研发、
提供定制和半定制产品,同时兼营高端会议服务业务的
技术服务企业,公司专注于区域性的环境监测信息化解
决方案,广泛吸纳计算机、通信、工艺、设备、管理领域的优秀
人才,拥有一支由博士后带领的高素质技术队伍,已自行研
发出具有自主知识产权的多种软件,如石化厂区有毒气体
在线监测平台、基于安全头盔的厂区预警系统、危险化学品
自动机器人、工业现场地面巡检系统。另外,公司还提供专业领域的国
际会议服务,帮助承办各类国际学术会议、高峰论坛等,系
数丰富的组织资源、场地规划、商务接待等业务,公司团队已具
备丰富的会议工作经验,已成功承办O'neacorn 2014国际中
国国际会议。

欧洲创新联盟中国区总部的由来

...the ...

有毒气体泄露在线监测平台

■ 项目简介



✓ 蓝田网络书店



基于平面化理论的 城市边界定位



1 什么是噪声地图？

11 什么是群智感知？

三 我们做了什么？



IV 我们是如何做的？

V 广石化道路降

Training Innovative Talents

A national wide problem for discussion

