

2010 Asia Pacific Business Schools Annual Conference

Strategic Change for Sustainable Management

October 28-29, 2010 @ Keio Business School, Hiyoshi Campus, Kanagawa, Japan

SESSION 6

**Business Opportunity
and**

**Human Resource Development
in Asia**

business and the ties that bind us all

- how can science help? -

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the ties that bind

-challenges for sustainable management-

- **Common concerns**

- Stewardship of the Earth`s Environment
- Caring for the Human Condition
- Managing “Mega-Infrastructure Systems”
- Contributing to Global Peace and Prosperity
- Shaping a New World Order

- **Directions for the Asia Pacific era**

- Managing Diversity: Promoting Inclusion
- Nurturing Creativity: Harnessing Technology and Design
- Mitigating Risks: Reviewing the Role of the Real Economy

business and science

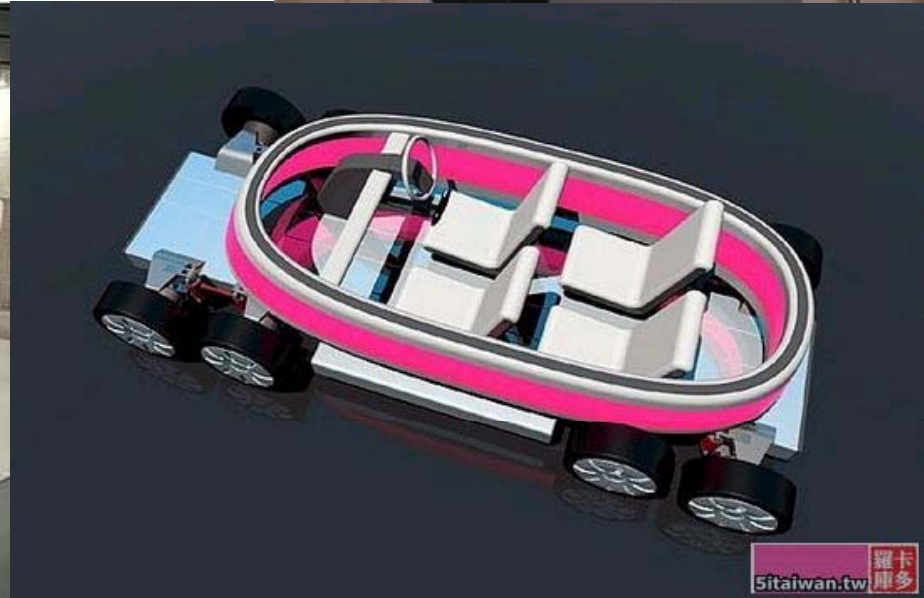
-an introduction-

- 3 simple questions
 - What do we have?
 - What do we lack?
 - What can we do?
- Directions for Asian science
 - Promoting Science and Technology Innovation
 - (a) “End of Pipe” (EoP) type technologies
 - (b) “Stuff out of the Blue” (SoB) type technologies
 - Integration: Devices into Systems, Knowledge into Wisdom
 - Strengthening Asia’s Science Infrastructure

japanese science -contributions that inspire...(1)-



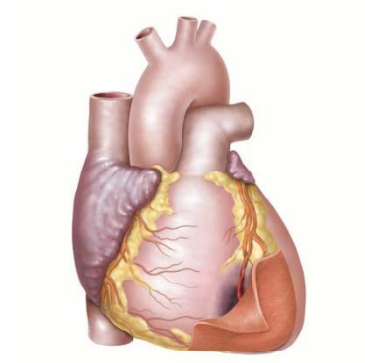
End-of-Pipe
type



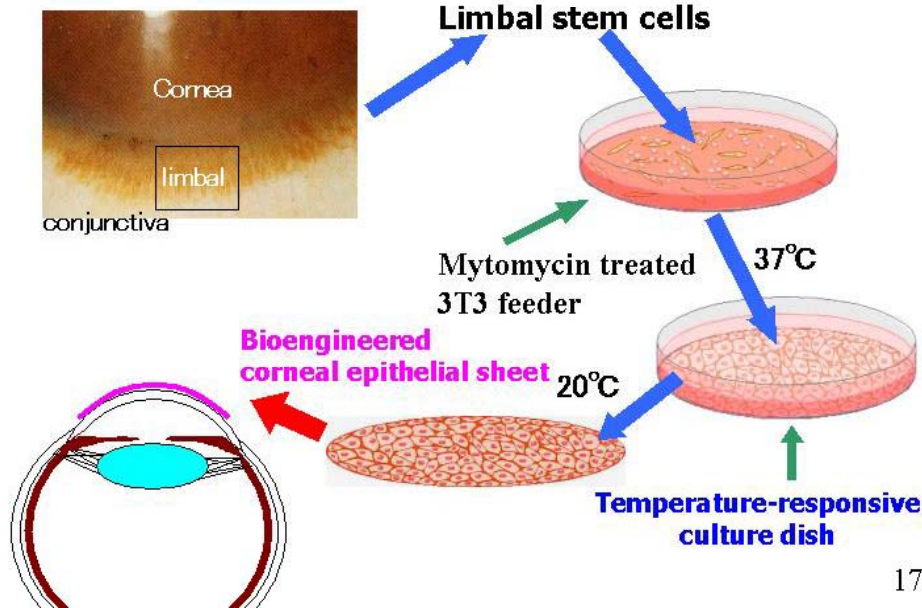


Japanese science -contributions that inspire...(2)-

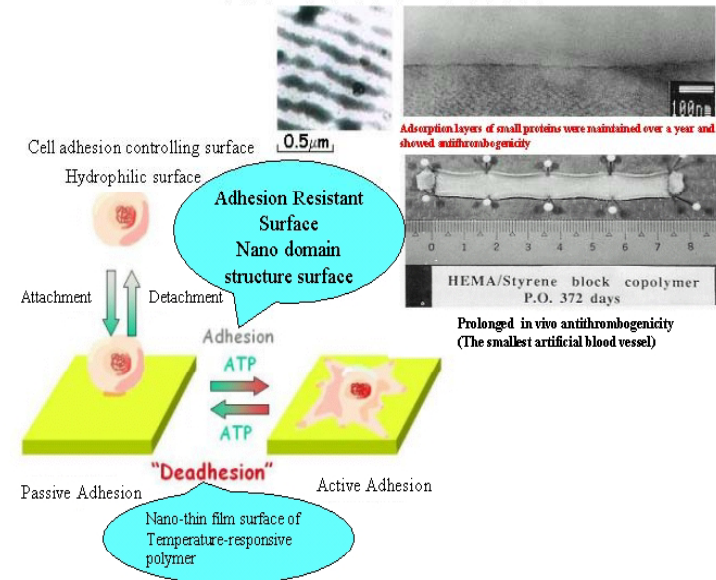
Stuff-out-of-the-Blue type



Transplantation of Cultivated corneal epithelial sheet harvested by reducing temperature treatment

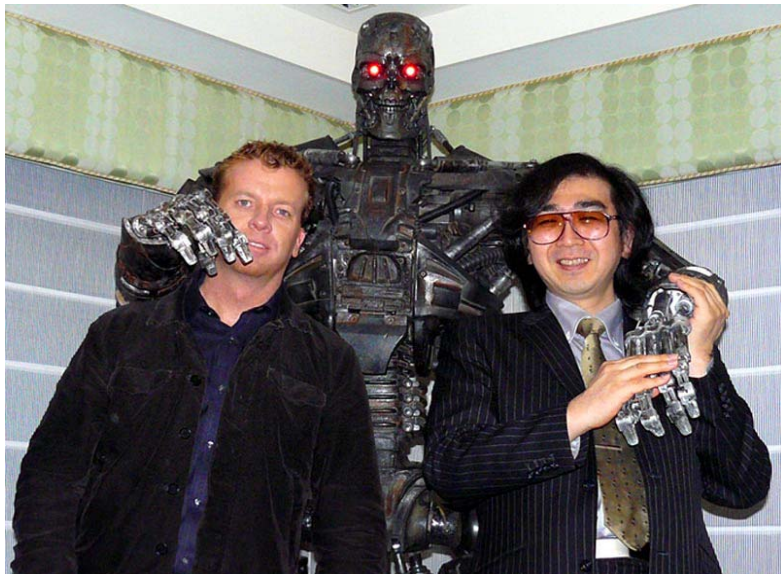


Nano-Bio Interface



japanese science -contributions that inspire...(3)-

Stuff-out-of-the-Blue type



Integration

-devices into systems, knowledge into wisdom-

- **Adaptation to Climate Change**
 - How does climate change affect the taste of wine?
 - Applications beyond grapes and wine
- **Dealing with Emerging/Established Diseases**
 - MEDSYN Asia:
 - (a) Gastro-esophageal Reflux Disease (GERD)
 - (b) Stroke

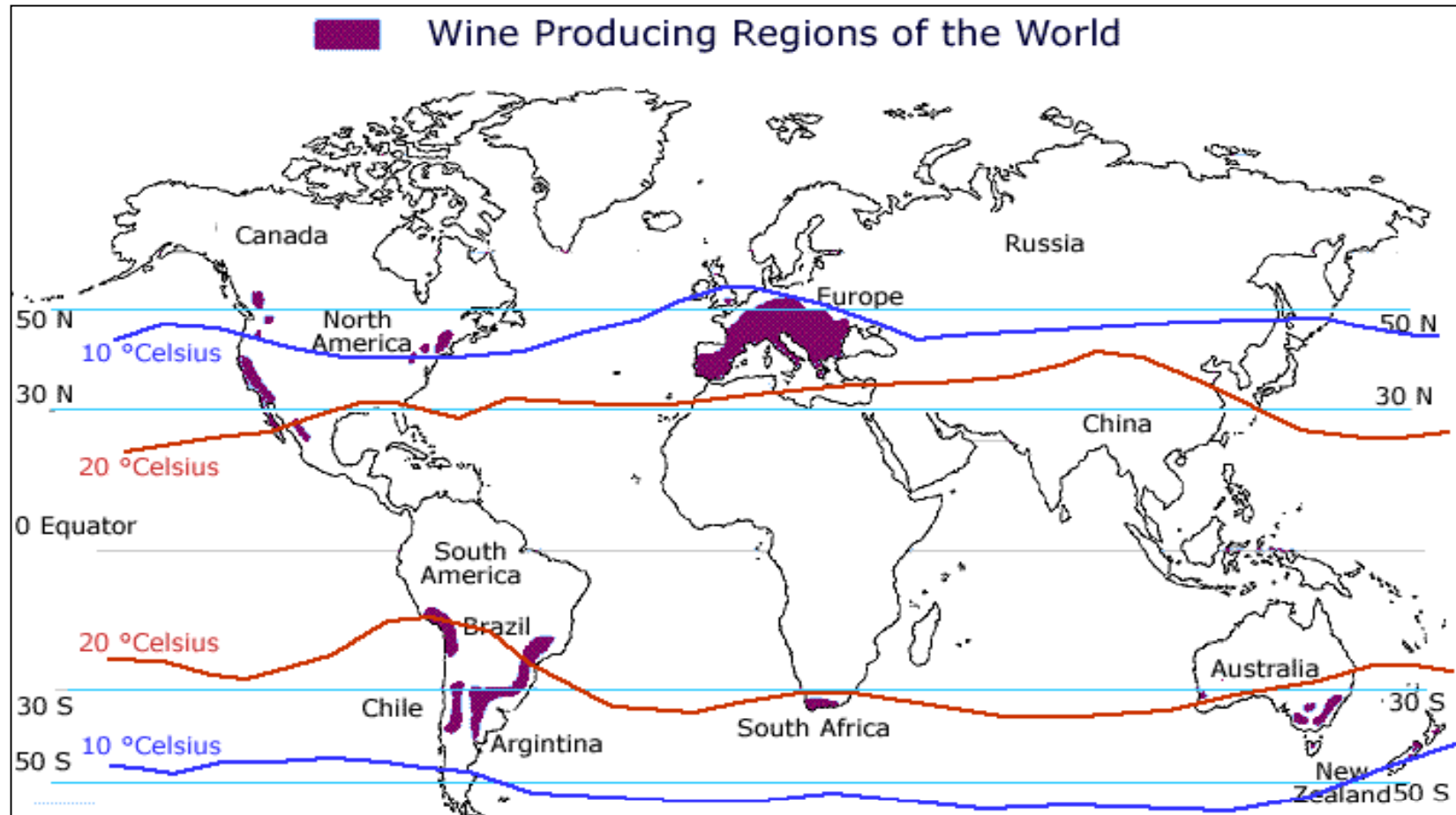
adaptation to climate change

It all began in 2007 with a question:
“What makes a good year for wine?”



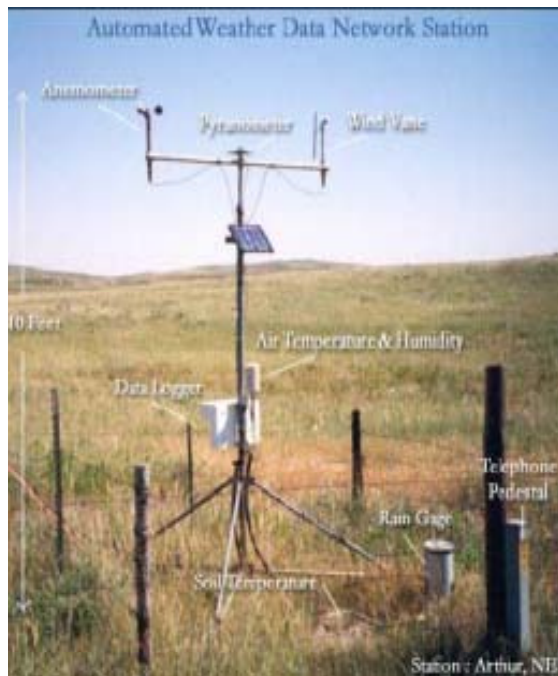
investigating grape and wine

characteristics relating to location, growing conditions, climate and environment

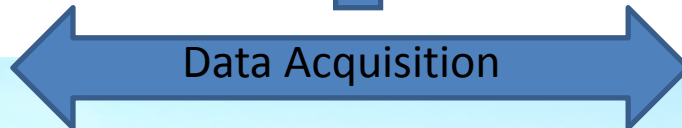
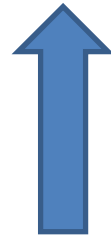


looking at agro-forestry transformations

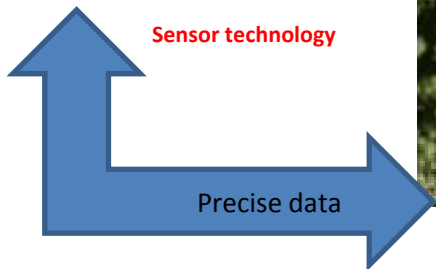
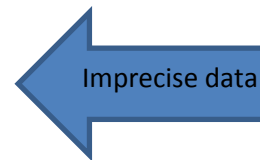
How does climate change affect the taste of wine?



Modelling and Prediction



Sensory perception



Precision Agronomy

traditional adaptation in the terroirs

four main variables for good grape growth to make great wine

- Soil
- Climate
- Variety
- Terrain



Numerous correlated sub-variables, implicit knowledge, which constitute a complex matrix of environmental factors

the matrix

database of key indicators

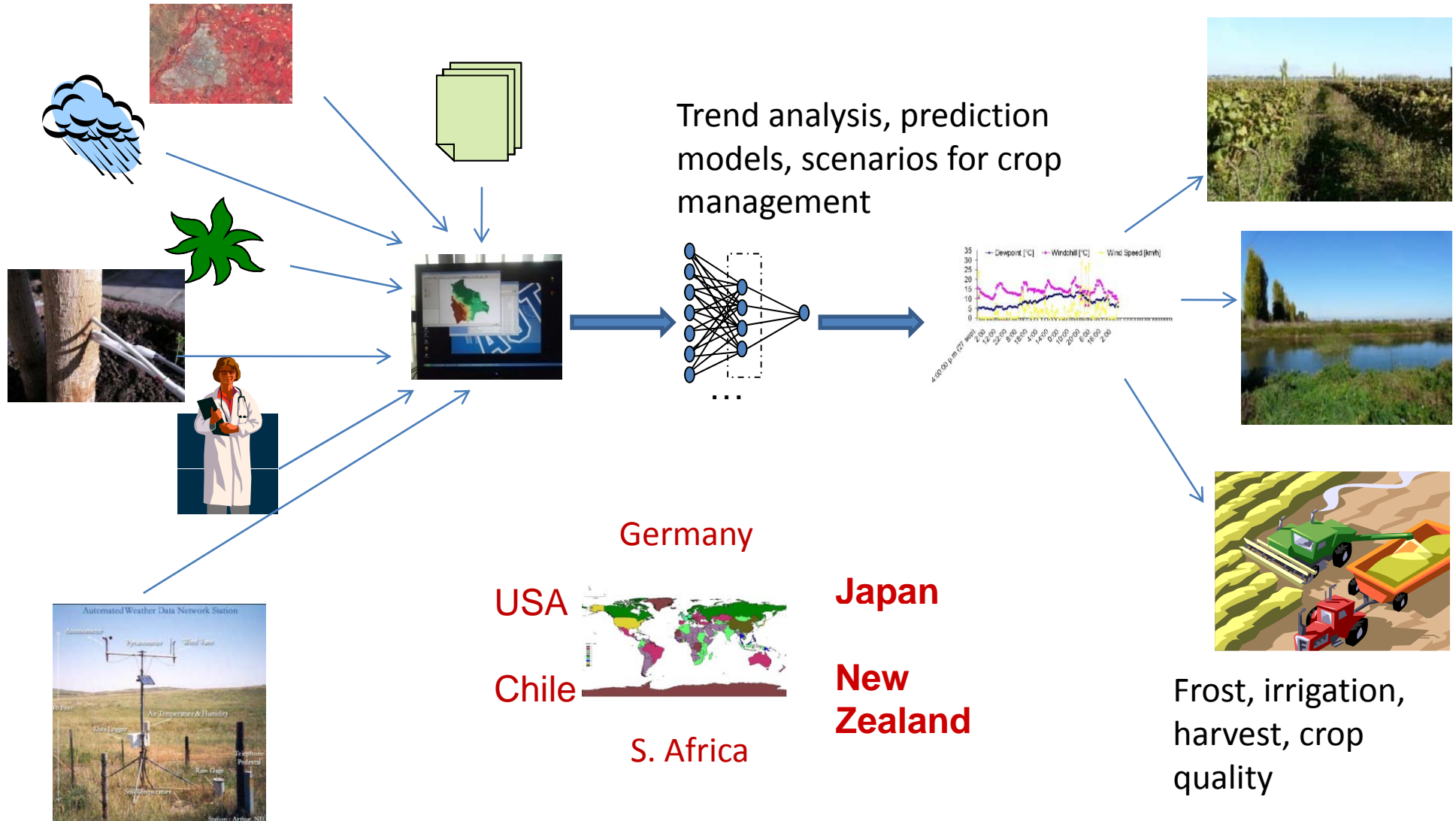
Unique Key (concatenated)= time+date+long:lat

Vector data

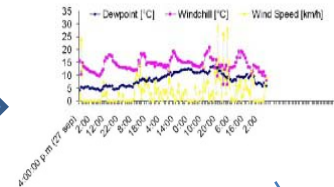
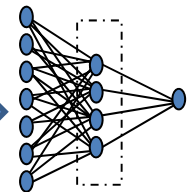
Temperature		°C
Wind Speed	km/hr	
Wind Direction		Ddd
Wind Chill		°C
Humidity		%
Dewpoint		°C
Solar Radiation (Pyrheliometer for Photosynthetic Light Measurement)	umol/m ² /sec	
Pollution factors (CO ₂)		%
Rainfall		mm
Barometric Pressure		hpa
Soil Moisture		%
Soil Temperature		°C
Leaf Wetness		%
Sap Flow (volume and speed)		Ltrs/min
Plant growth Rate (Dendrometer)		%
Chemical composition analysis (Chromatographer)	%	

Data gathered by sensors & uploaded to GRC server in real time

transforming local knowledge into global actions



Trend analysis, prediction models, scenarios for crop management



Germany

USA

Japan

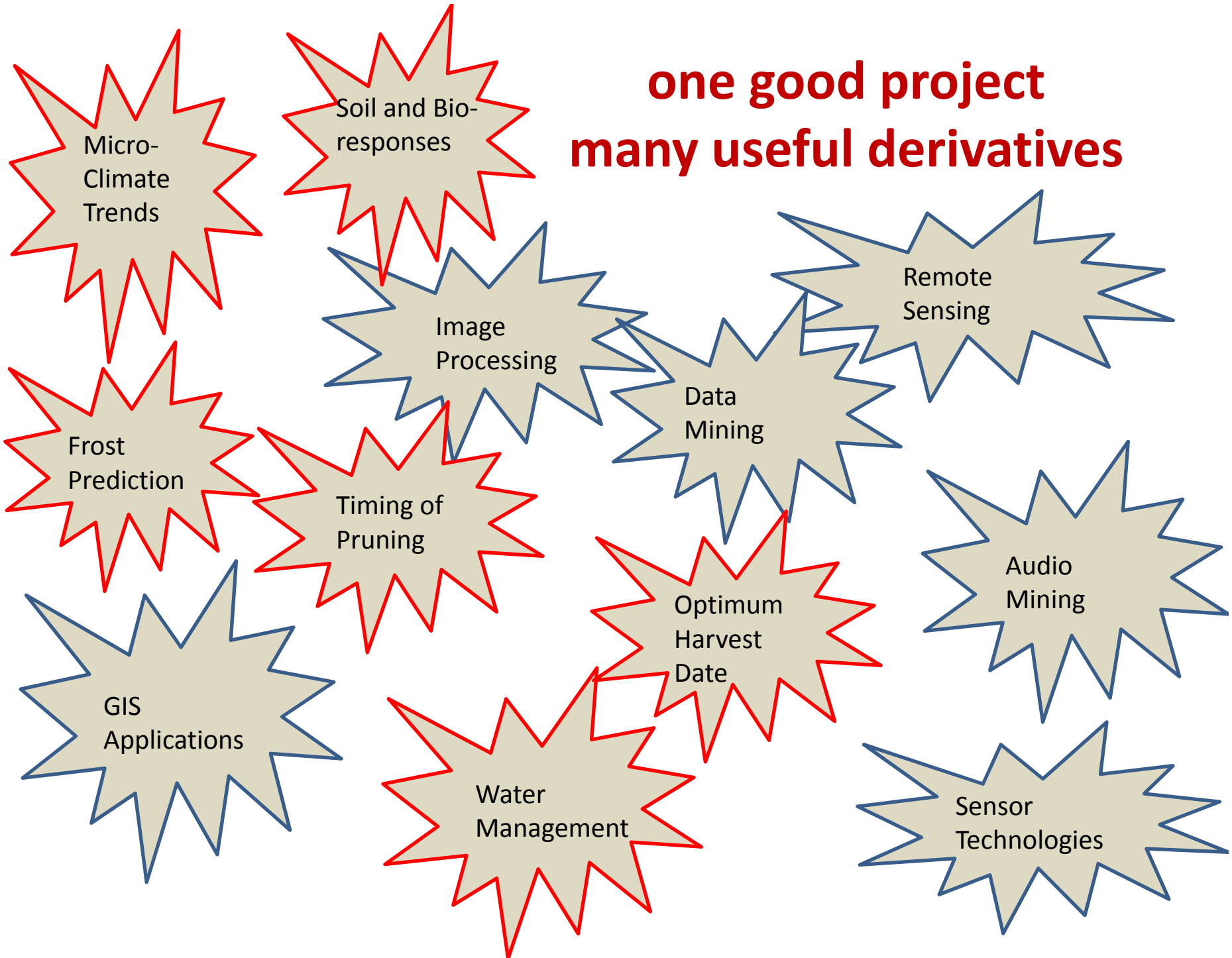
Chile

New Zealand

S. Africa

Frost, irrigation, harvest, crop quality

**one good project
many useful derivatives**



asia's intellectual infrastructure

business as a powerful advocate
universities as crucibles of change

- **Disseminating Research Outputs**
 - Journals of the stature of SCIENCE and NATURE
 - Harnessing ICT (eg: TED Talks)
- **Enhancing Professional Mobility**
 - Mutual recognition of professional qualifications
 - Visas and other impediments to travel
- **Creating Exemplars**
 - Harnessing local initiatives for solving global issues
 - Bringing people together

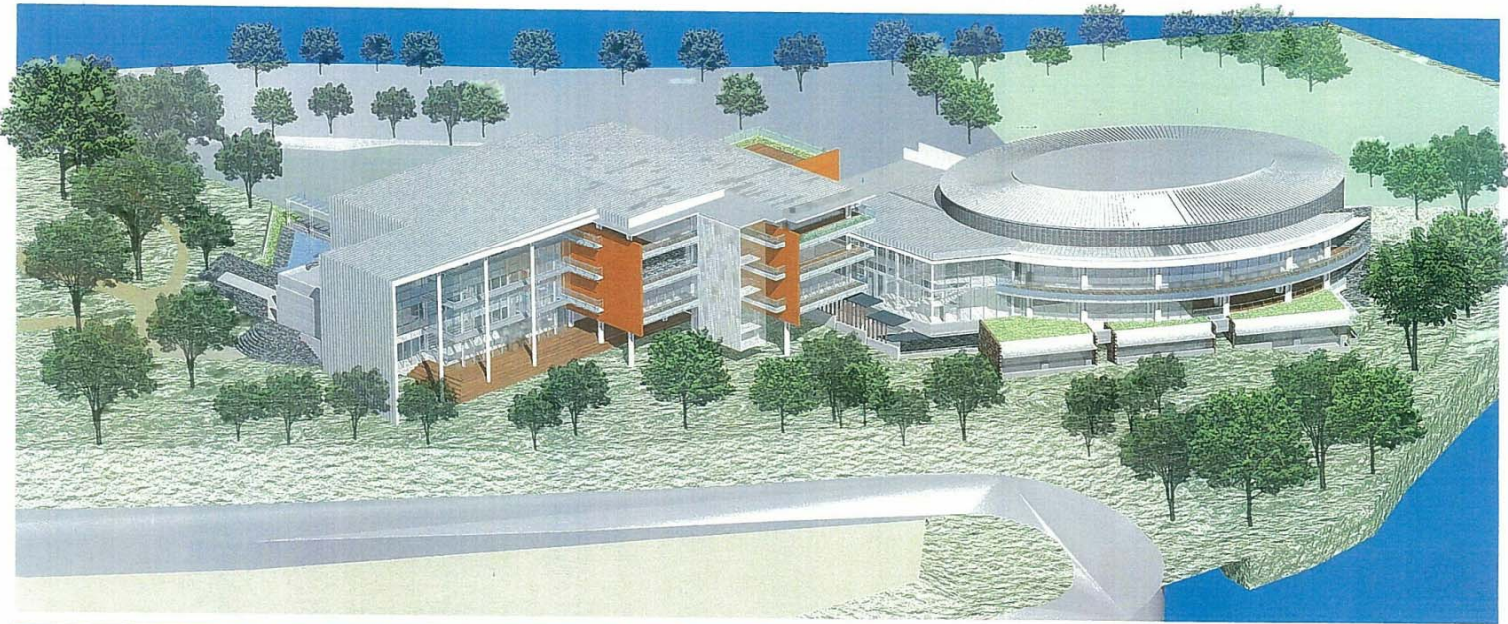
can universities really help?

- the case of Ritsumeikan Asia Pacific University-

- The first ten years (2000-2010)
 - Investment and impact
 - Challenges for the local region
- The next ten years (-2020)
 - A Silicon Valley in Japan's Silicon Island
 - The Digital Discoveries Collaboratory

The Digital Discoveries Collaboratory

Sowing the seeds of a Silicon Valley phenomenon



thank you

