Micromachines and Market@one Project

Chan Yie Leng
Fabio Carati
Shuhei Kuwabara

Objectives to study ecosystems:

- Decentralized Production
- Product Customization
- From Product to Service

Trends 1:

- Every object will be connected (WSN)
- Pervasive Robot Technology from 2015:
  1. Automatic Machine are acquiring Robot OS
  2. Appliances will become robots
  3. Mature Markets:
     - 1 robot per family by 2025
     - 100 billion Euros worldwide
     - In 2025, social robots: 20 million units (20 billion euros)
     - In 2025, industrial robots (Europe and US): From 2009, the world market for industrial robots will rise by a yearly average of 4.1% to 134,100 in 2011.

Trends 2:

- CRM from costs to revenue = To achieve the product personalization
- Design from designer to customer = expert systems and simplified GUI (Graphical User Interface)

Business Opportunities

- Decentralized Production for Italian Districts

  To build a service platform to help Italian SMEs to deliver their personalized products worldwide without transportation costs.

- Ecosystem with a SaaS platform like social network, CRM, and ERP.

Design - *originated by customers' feedback*

SHOP

Fitting Room

Profiling

Advice

Customer

Order

Production Plant

Design

Marketing

PRODUCTION LINE

Production – *produced by robots*

ITALY

Design

GIORGIO ARMANI
MOSCHINO
CERRUTI
GIANFRANCO FERRE
Jean Paul GAULTIER
HUGO
GUCCI

WORLDWIDE MARKET

Plants → Clothing

PRODUCTION ROBOTS

SHOP

Plants → Footwear

Retailing – *shopping will become an exciting experience*

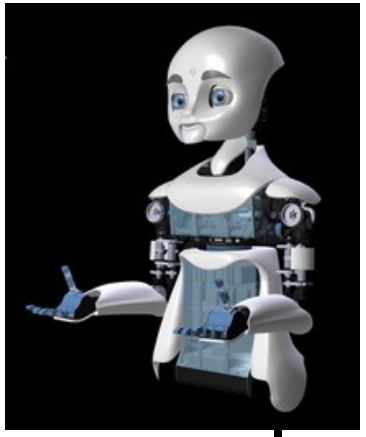
FITTING ROOM

Video, Information

ADVICE

INFORMATION

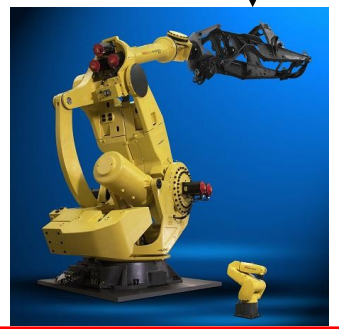
SOCIAL ROBOTS



TAG
SENSOR

Live and Experience

PRODUCT



PRODUCTION ROBOTS

Retailing – *shopping will become an exciting experience*

AT HOME

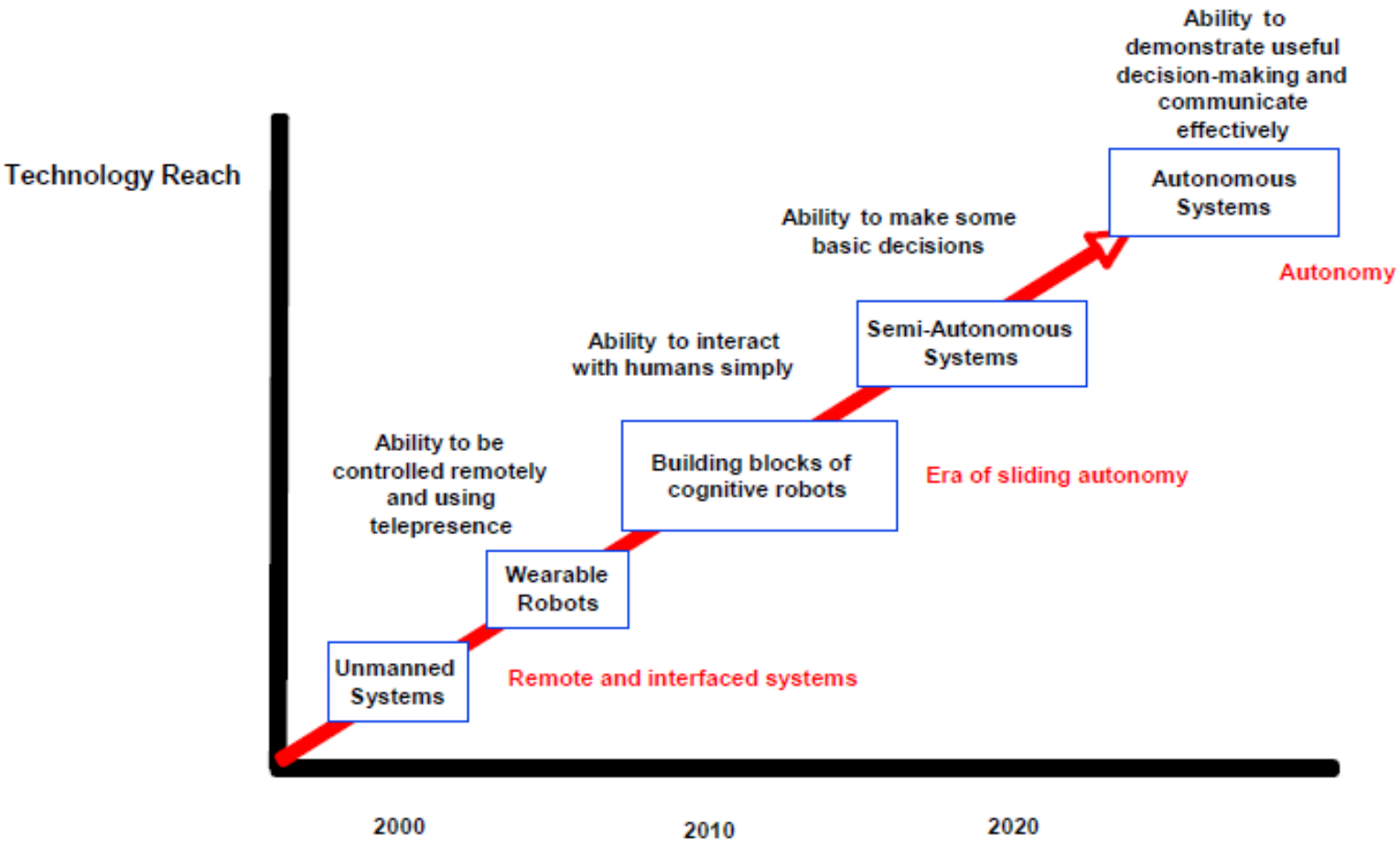
PRODUCTS with TAG or SENSOR

Printed
or
Embedded

CAN ADD →

SERVICES ENABLED BY TELECOMMUNICATION

Technology roadmap: service robotics



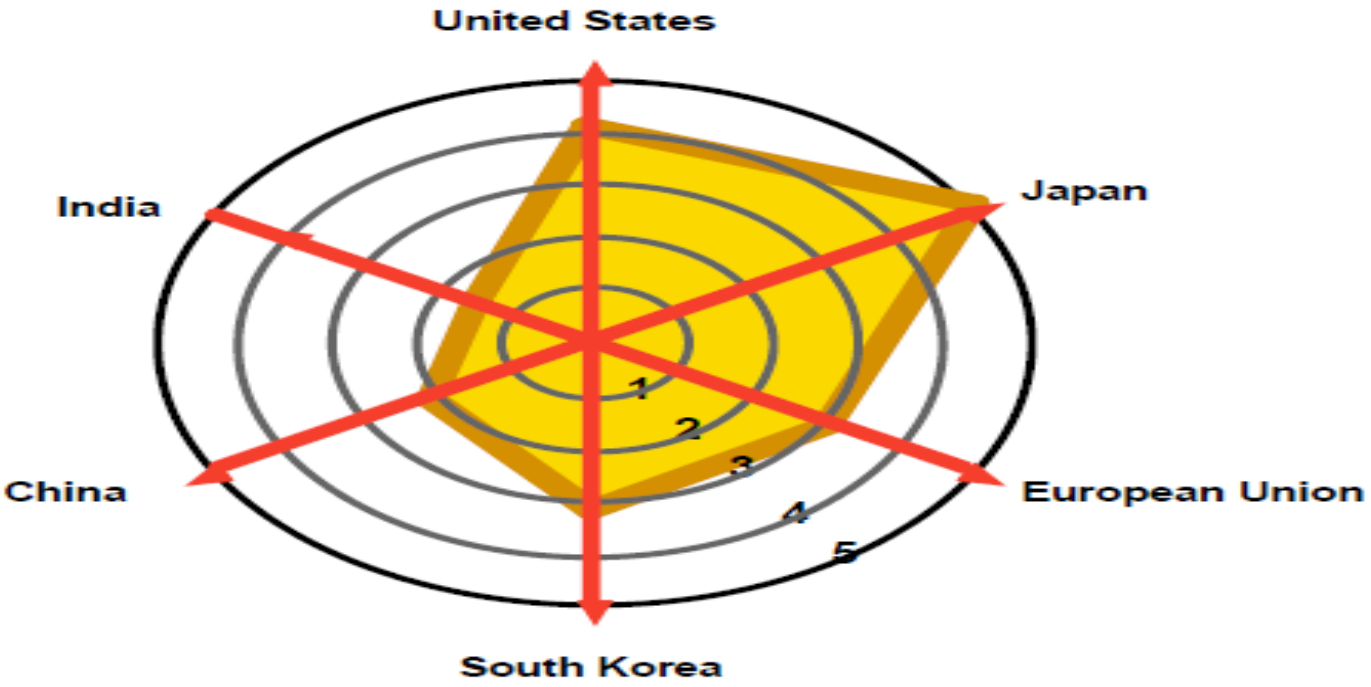
Source: SRI Business Consulting Intelligence

Robotics Timeline

Application Category	Current Business	Emerging Opportunities	
		By 2015	Beyond 2020
Defense	UAVs, UGVs, Medical Robots	Military Human Augmentation Non-autonomous Combat Robots	Robot Swarms Micro Robots Autonomous Robots
Professional Service	Non-autonomous Robots	Workplace Assistance	Skilled Worker Robots
Domestic	Single-use Semiautonomous Robots	Toy Robots become Tool Robots	General Home Assistance
Healthcare	Robotic Surgery and Telemedicine Pharmacy Automation	Human Augmentation Therapeutic	Elder-Care Robots
Technology Diffusion	Assisted vehicles	Consumer Electronics`	Autonomous Vehicles

Source: SRI Business Consulting Intelligence

International Status of Robotics Industry



Note: Numbers indicate progress in robotics R&D and commercialization:
1 = mostly manufacturing
2 = nascent robotics industry; R&D at some universities
3 = some robotics players established; key R&D efforts underway
4 = leading players and centers of excellence established
5 = global leader in robotics R&D and commercialization.
Source: SRIC-BI

Universities & Collaborators

- University of Ca'Foscari (VE) – Business
- University of Florence (FI) - Business
- University of Padova (PD) – Robotics
- University of Pisa (PI) – System Control
- Top Clients from the Business Unit of Telecom Italia
- Government of Veneto & Tuscany Region