

# R&D collaboration for expanding to new application areas

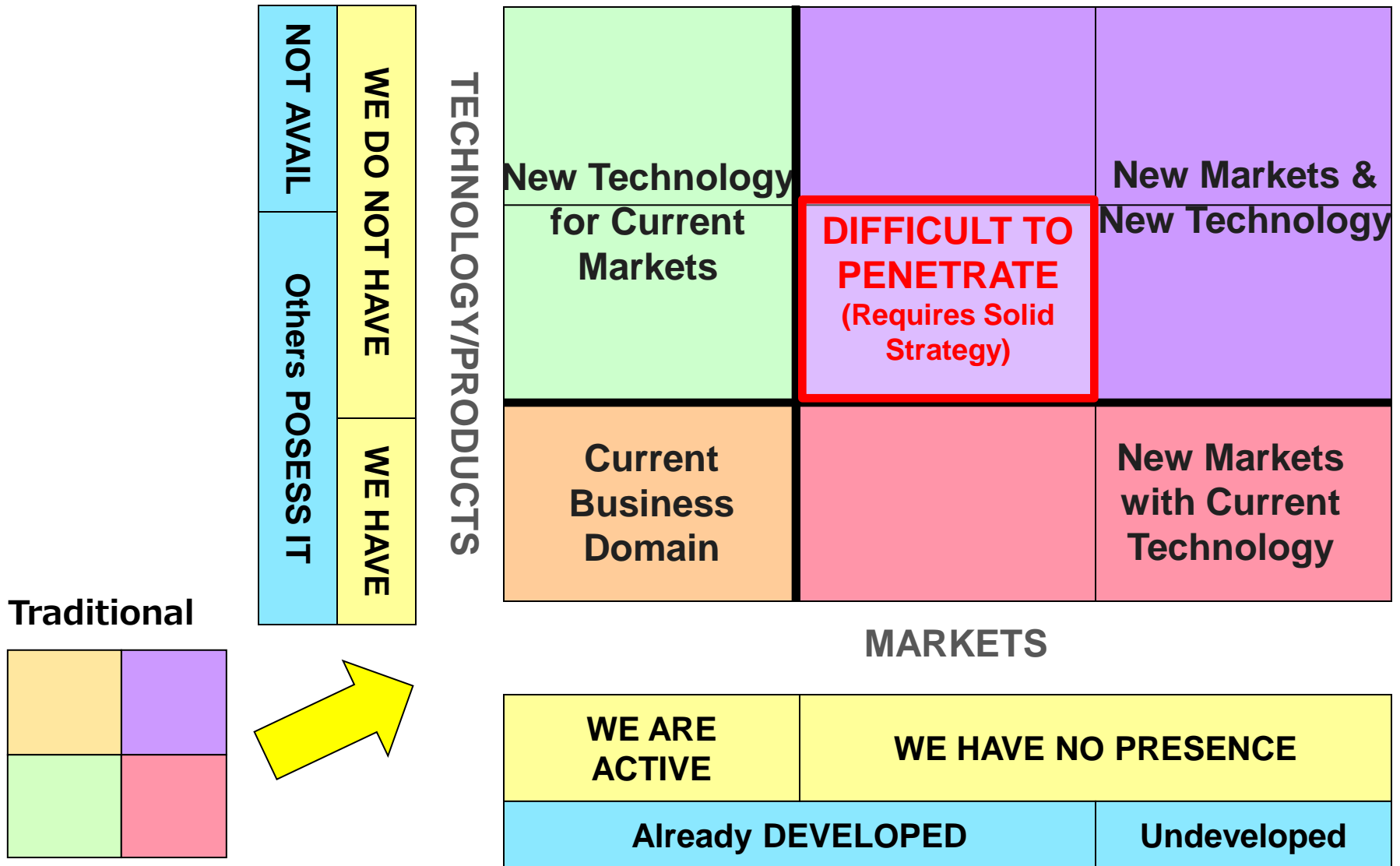
Finnish Electronics Industry  
Innovation Summit

November 2018  
Anssi Korhonen



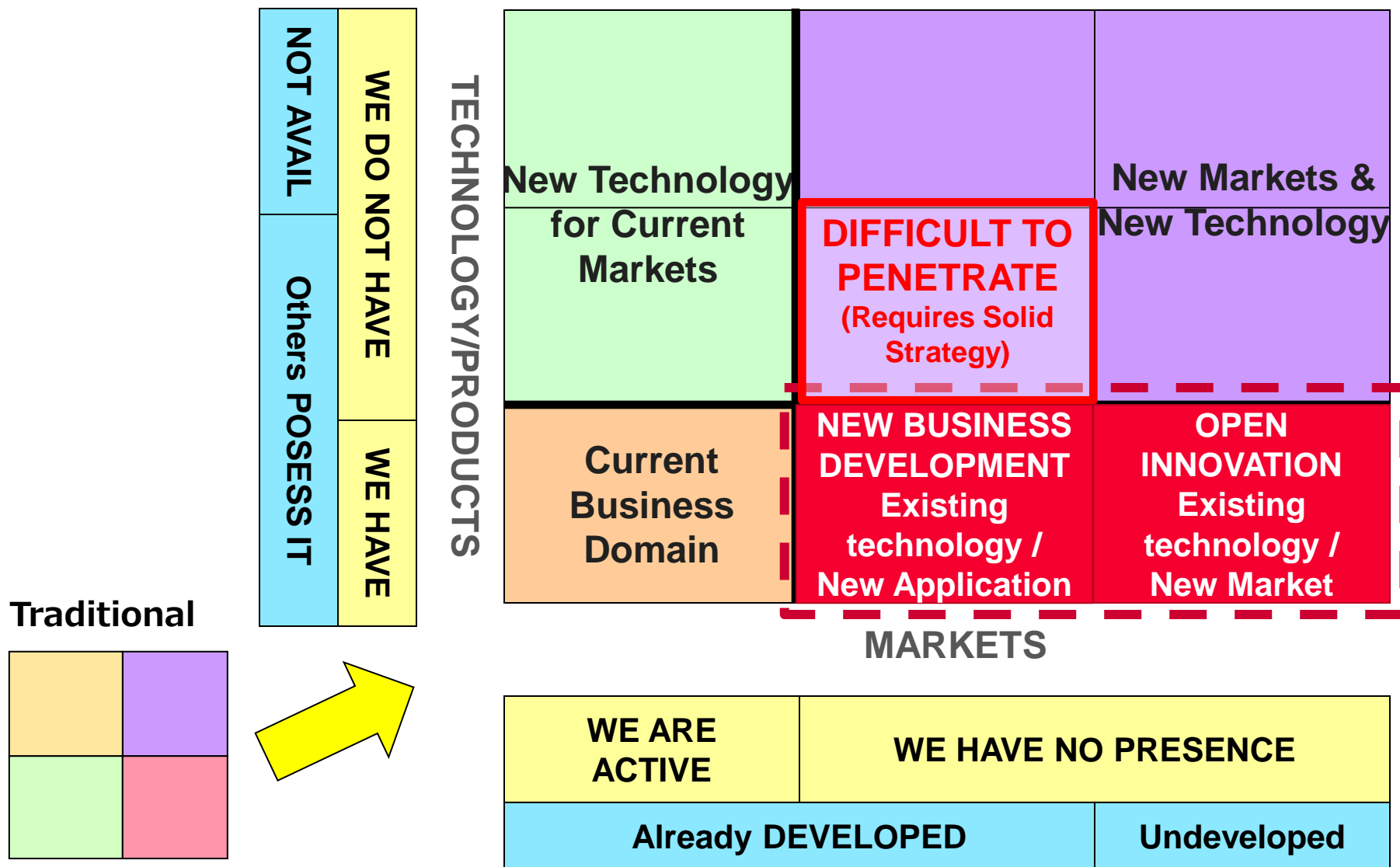
# Positioning in technology/market matrix

## 3\*3 Matrix Analysis



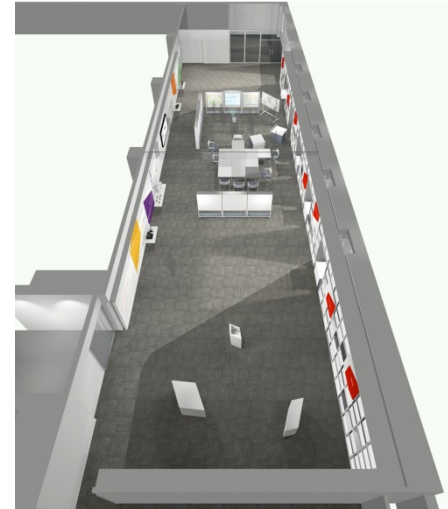
# New markets/apps with existing technology

## Positioning in 3\*3 Matrix



# Open Innovation in Murata

- Collaboration with leading companies
- Inviting companies from other industries
- Brainstorming sessions
- Mind-mapping
- Road-mapping



**Murata New Technology Center, Yasu, Japan...**

**... moving to Minatomirai (Yokohama)**

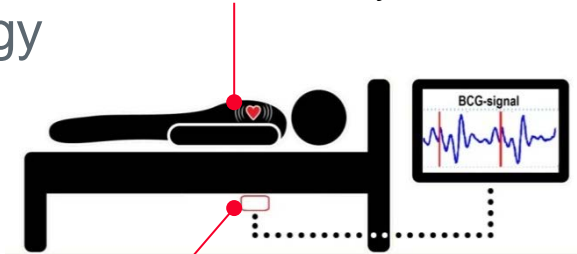


# New business development

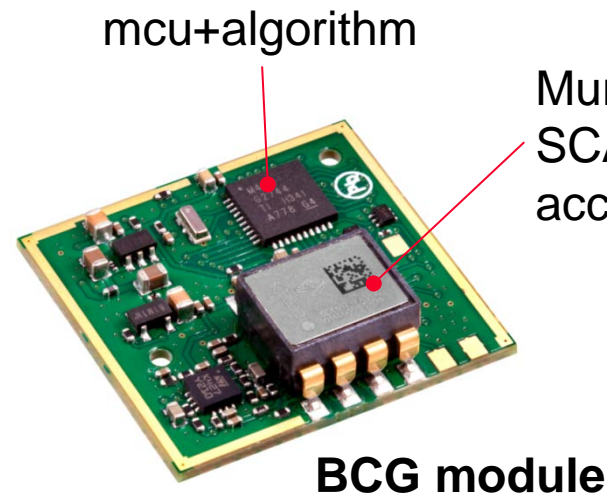
## Case *BallistoCardioGraphy (BCG)*

- New applications based on existing technology
- Developing a value added product
- Applying existing product blocks
- Swift product development phase
- Requires close cooperation with customers in the new market

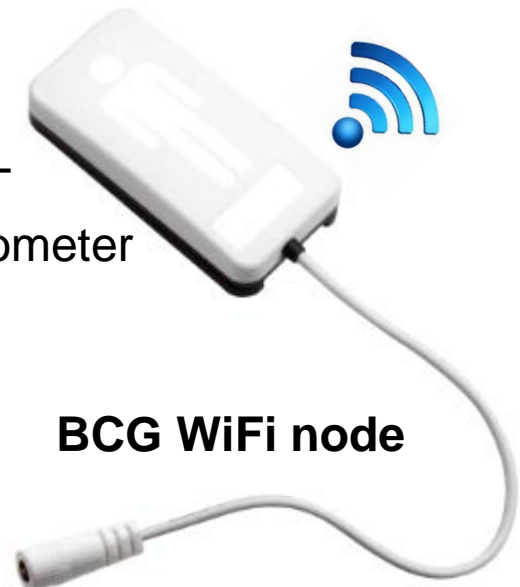
Recoil effect caused by blood flow



BCG signal captured with an accelerometer attached to bed

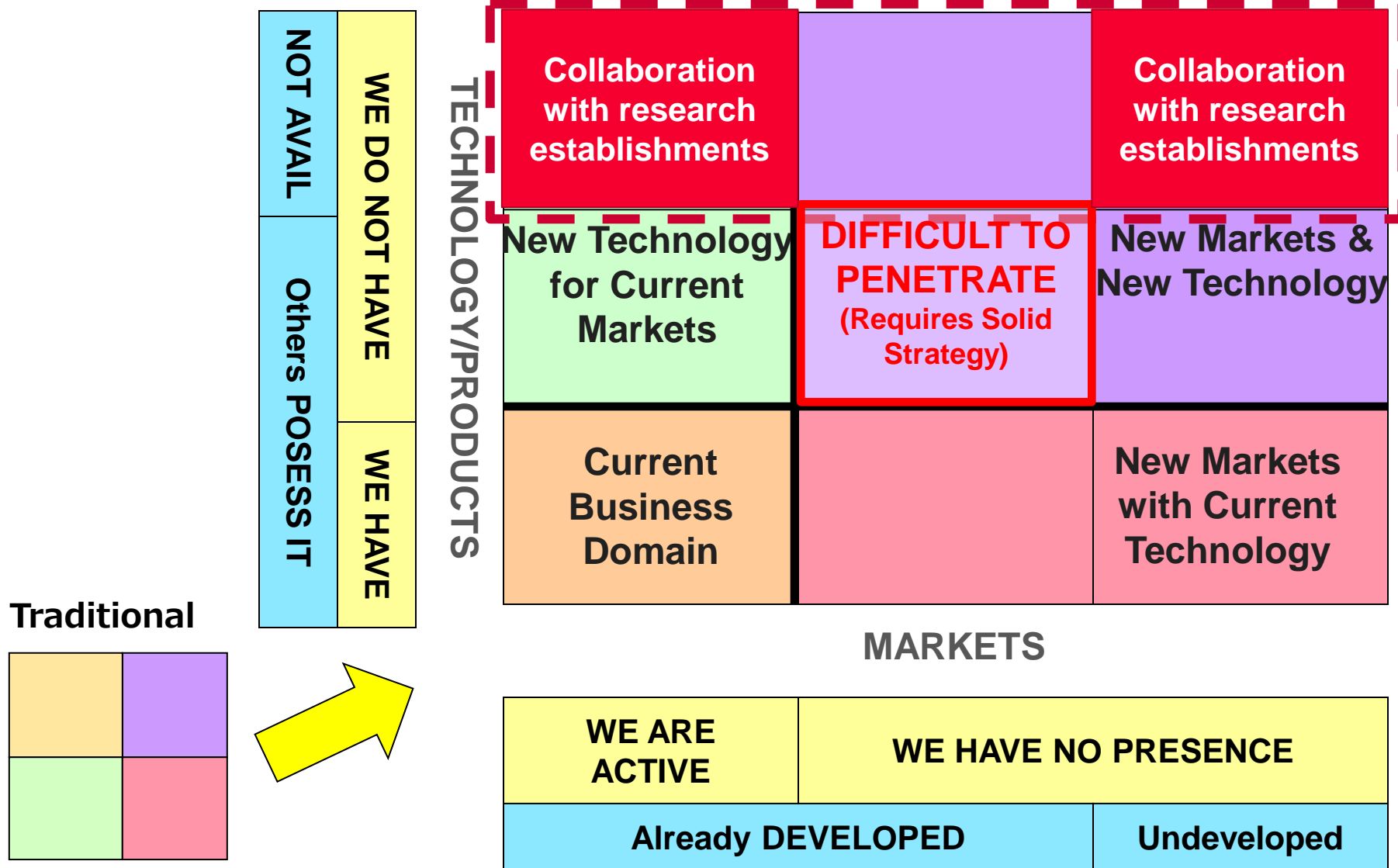


Murata  
SCA61T  
accelerometer




**BCG WiFi node**

# New technology development Positioning in 3\*3 Matrix




# R&D in collaboration for target markets

**AUTOMOTIVE**




**INDUSTRIAL**



**HEALTHCARE & MEDICAL**



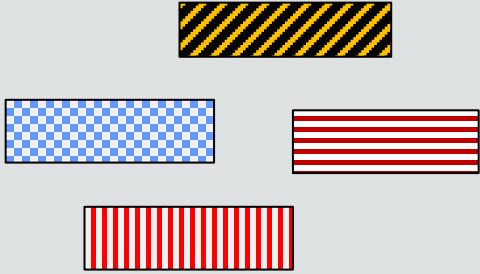
**ENERGY & ENVIRONMENT**



**IoT (INTERNET OF THINGS)**


## EXAMPLES ONLY

**Customers and Industry**



**Corporate**

N200 R6N



E2E R6S

**Supply Chain**

ASIC

Materials

Equipment

**Industry Associations**



**Funding Agencies**



**HORIZON 2020**  
The EU Framework Programme for Research and Innovation

**Universities and Research Institutes**



**umec**

# Success stories found with each model

## *Types of R&D collaboration*

---

- How do we work ? Project formats ...

- Murata internal projects



- Consortium projects  
(for e.g. EU funding)



- Two party projects  
(Joint projects with research institute,  
university or company)



- External development  
(following/guide development by external party)



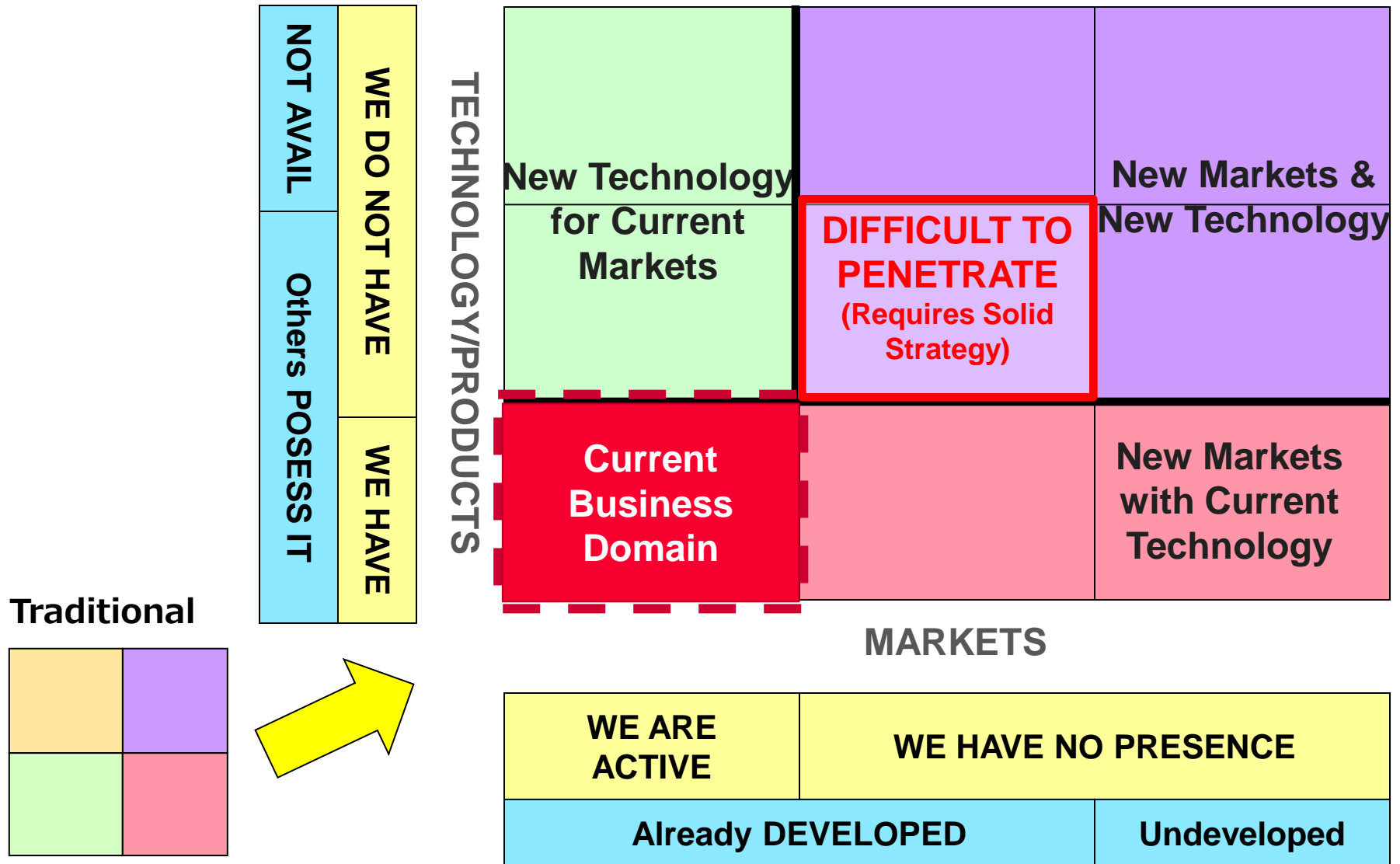
- Memberships  
(Influence and network in Europe)






# Positioning in technology/market matrix

## 3\*3 Matrix Analysis




# Product development based on existing technology in collaboration with supply chain

**AUTOMOTIVE**




**INDUSTRIAL**



**HEALTHCARE & MEDICAL**



**ENERGY & ENVIRONMENT**



**IoT (INTERNET OF THINGS)**

Customers and Industry

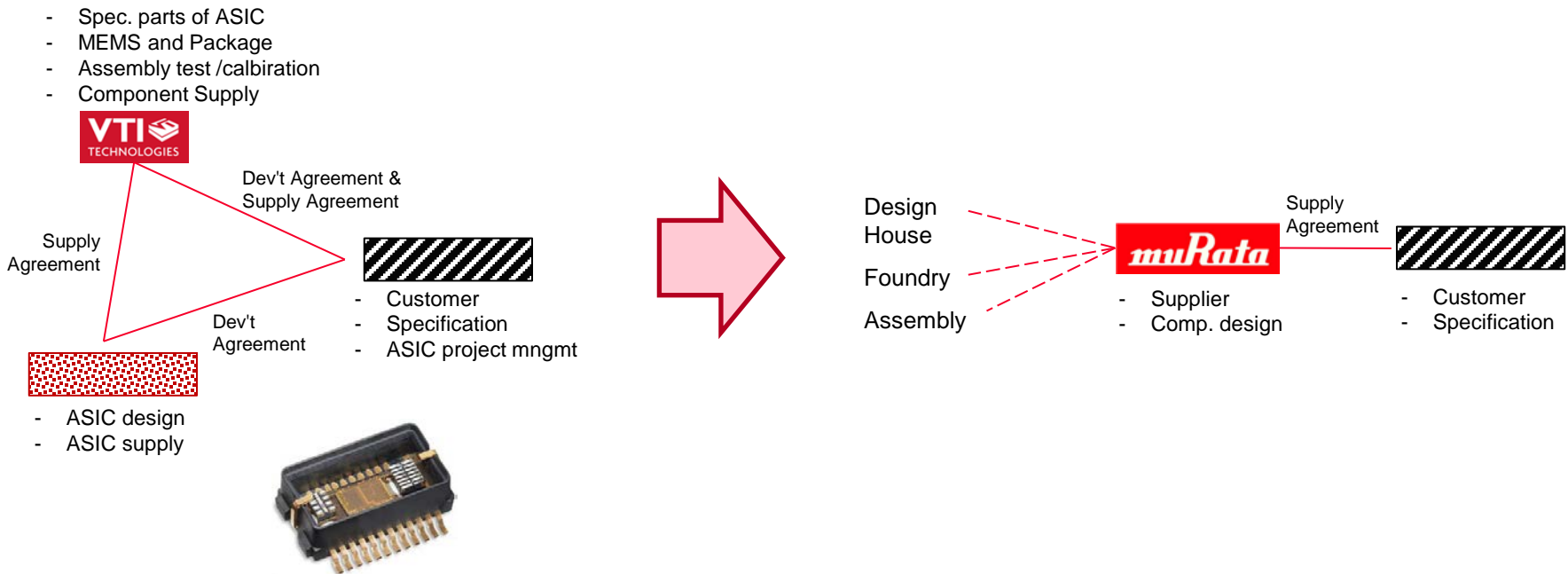
Corporate

Supply Chain

# Avoid triangles of responsibilities

## From triangle model to single point of responsibility

- Division of responsibilities difficult in joint development
  - Product development vs. product supply phase
  - Not optimum for product development nor supply phase
- Target simple agreement model with the customer



# Summary

---

- 3\*3 matrix analysis, different collaboration models
- Open Innovation and New business development based on existing technology
- New technology development in collaboration with research establishments
- Product development based on verified technology in collaboration with complementary supply chain partners
- Acquire, if necessary...

