

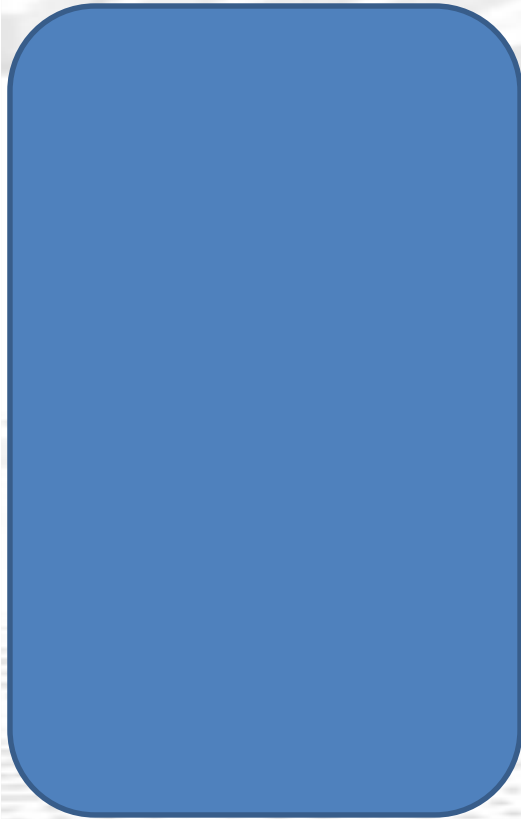
R&D transfer and Industrial requirements

MNBS 2014

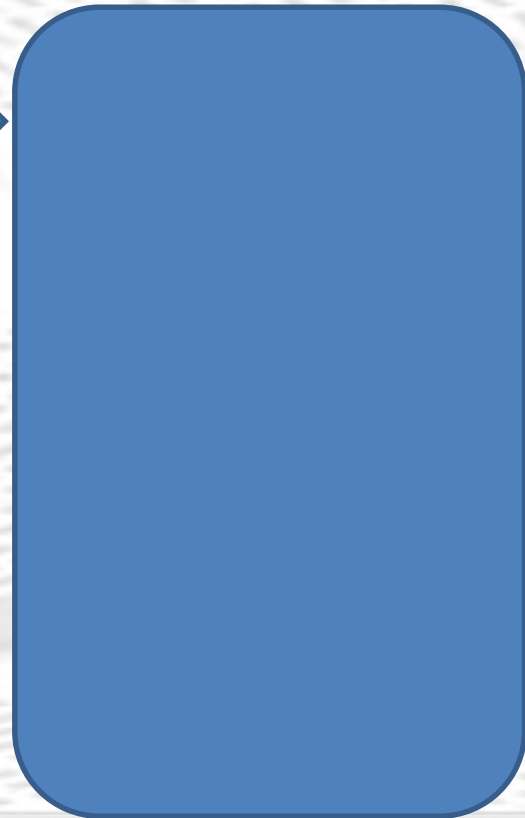
Géraldine Andrieux Gustin
Yole Finance

Scope

Technologies and
Know-How



Systems
manufacturers



Markets

Inputs

Technologies and Know-How

Systems manufacturers

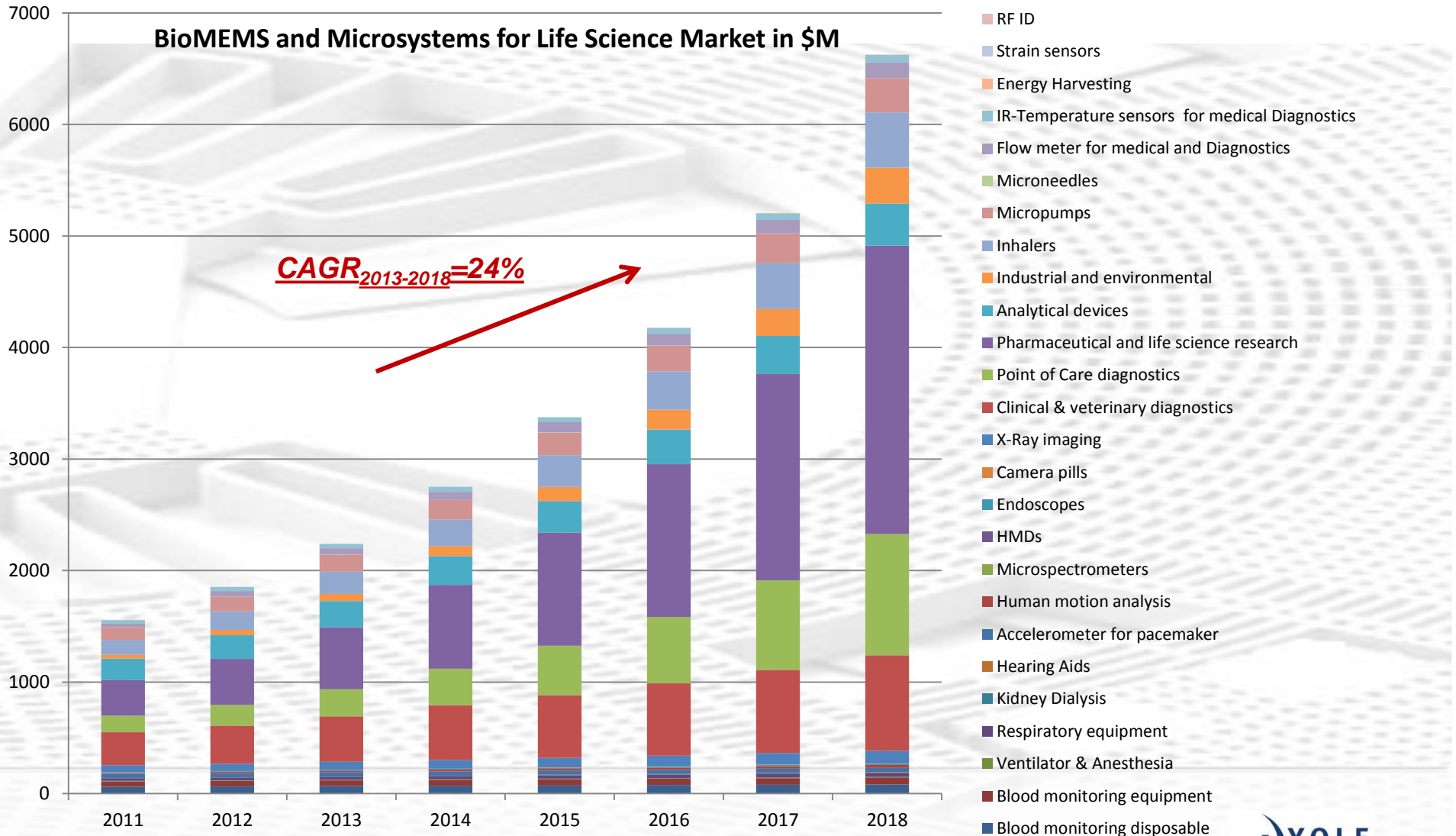


Markets

Microsystem Devices for Healthcare Applications

2011 & 2018 market in M\$

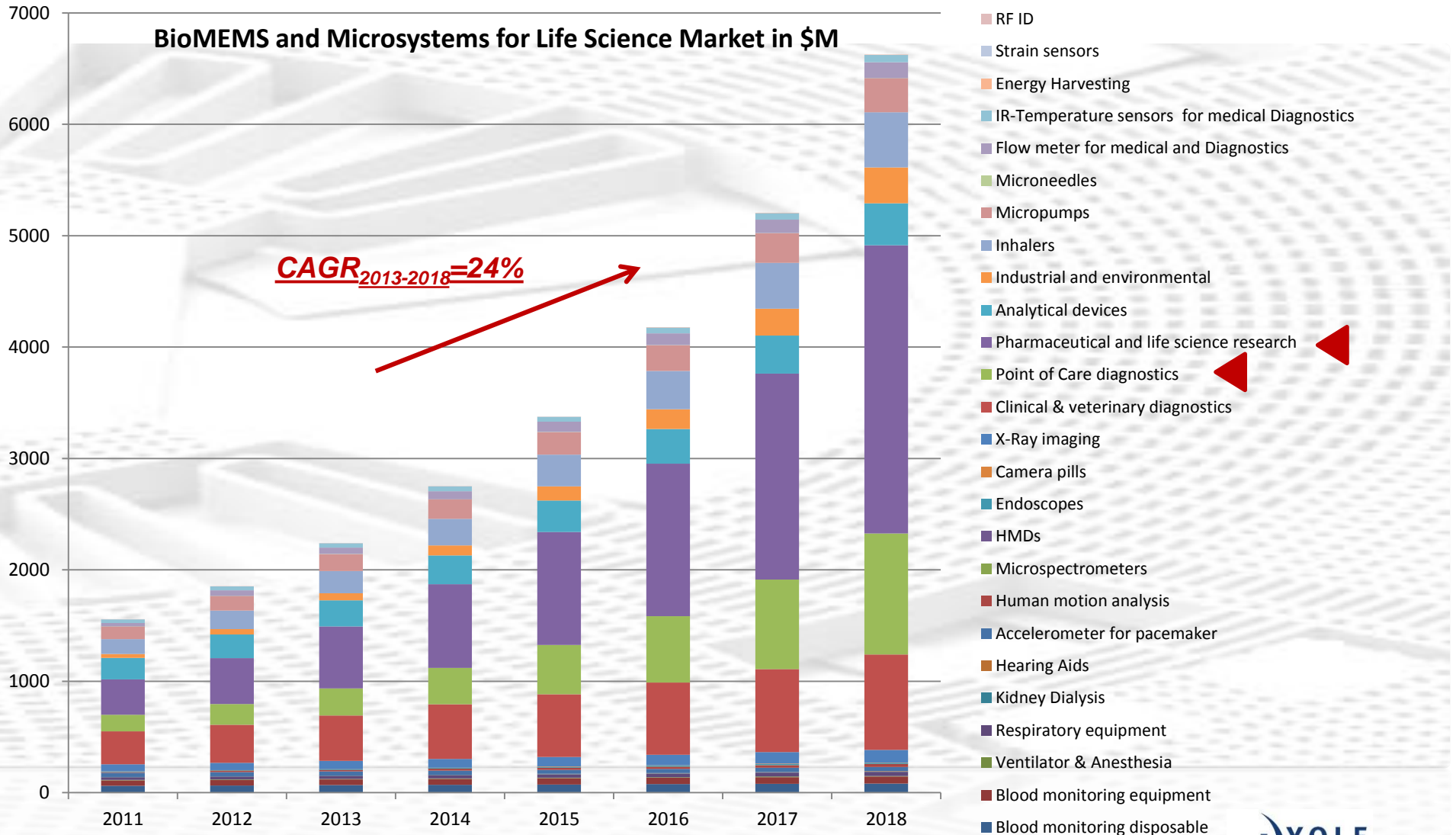
EXECUTIVE SUMMARY



Microsystem Devices for Healthcare Applications

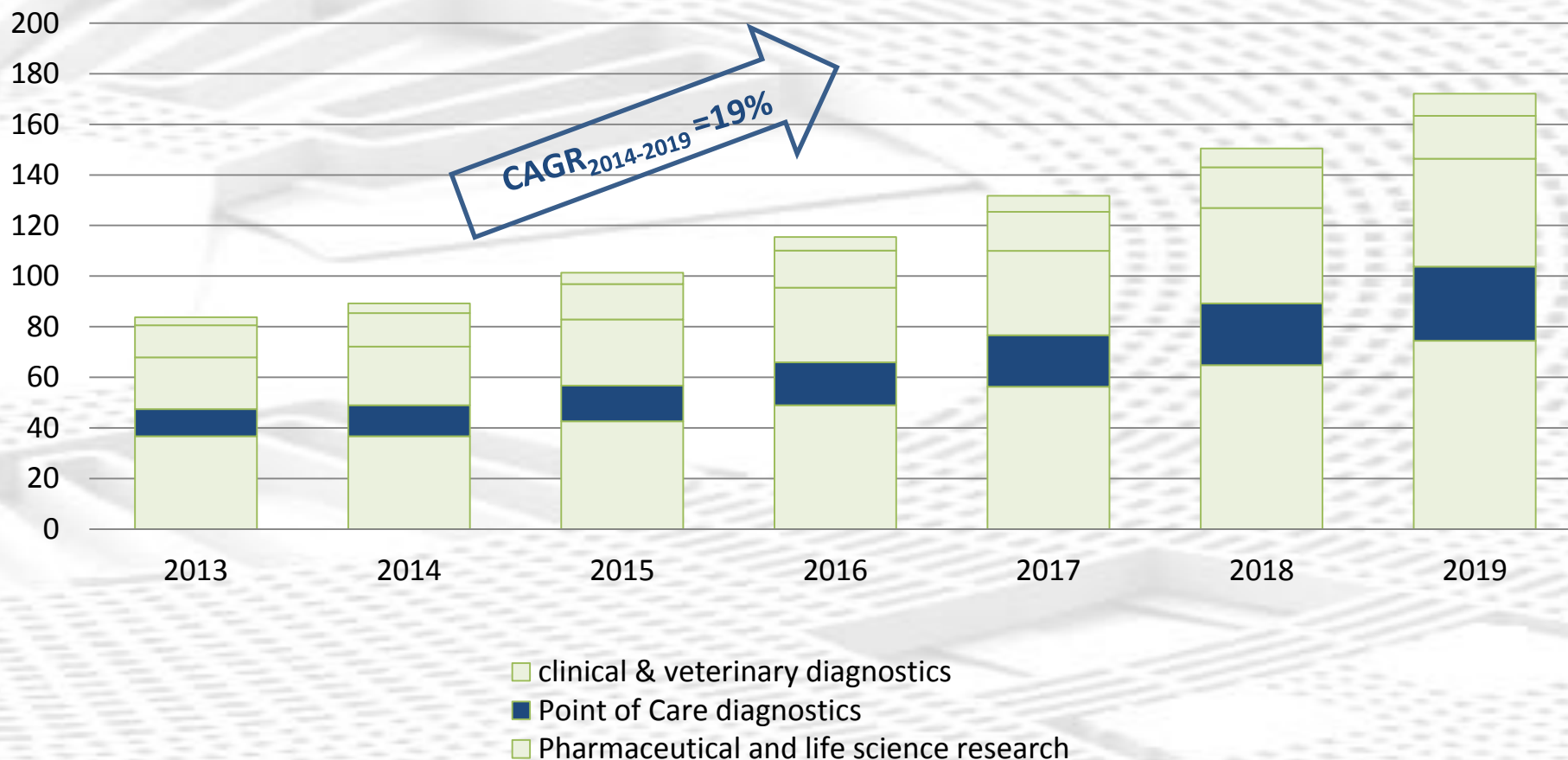
2011 & 2018 market in M\$

EXECUTIVE SUMMARY



POC Positioning in the IVD Market

Point of Care Contribution in the global IVD Market



This graph shows the market of In-Vitro Diagnostics (CAGR₂₀₁₄₋₂₀₁₉=14%). The dark green bars show the evolution of the POC market (CAGR₂₀₁₄₋₂₀₁₉=19%).

POC requirements – Outside of the lab testing

- Reduce cost of analysis
- Rapid testing
- Protocols steps integration



POC Testing Based on Microfluidic Dream or reality?

Product	Company	Results
i-STAT	Abbott Point of Care	35 million tests in 2011 More than 50,000 i-STAT handhelds are used worldwide
Piccolo® xpress	Abaxis	7.5 million units of reagent discs sold in 2013 1072 systems have been sold during the same year.
PIMA CD4	Alere	2,000 systems installed and 2 million chips have been sold in 2011
GeneXpert	Cepheid	Turnover: \$401M in 2013 19% of the turnover is linked to systems sales 81% of the turnover is linked to reagent and disposable sales
Triage	Alere	2 million tests per year for drug abuse testing Drug abuse test = \$47 per test System price: \$3,500



i-STAT



Piccolo® xpress



PIMA CD4



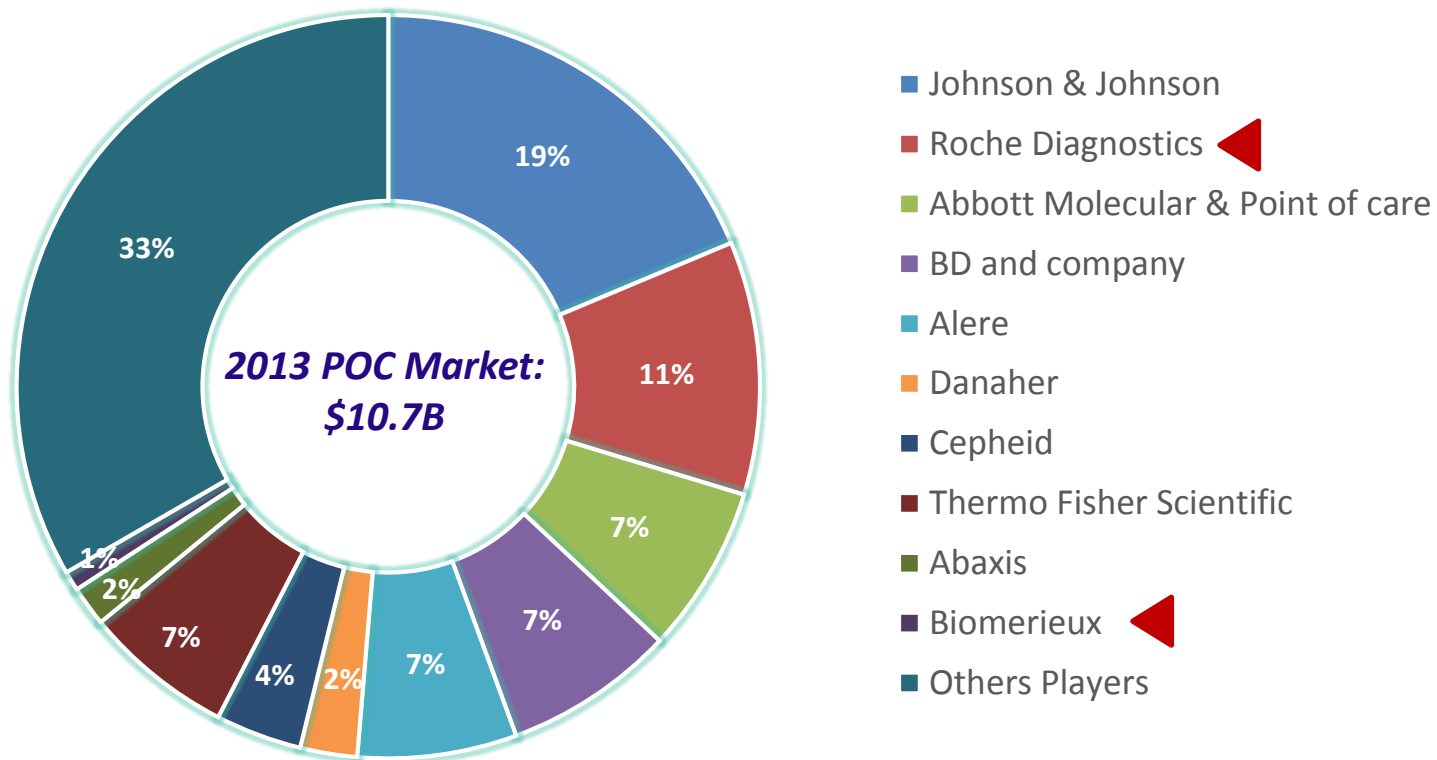
Cepheid



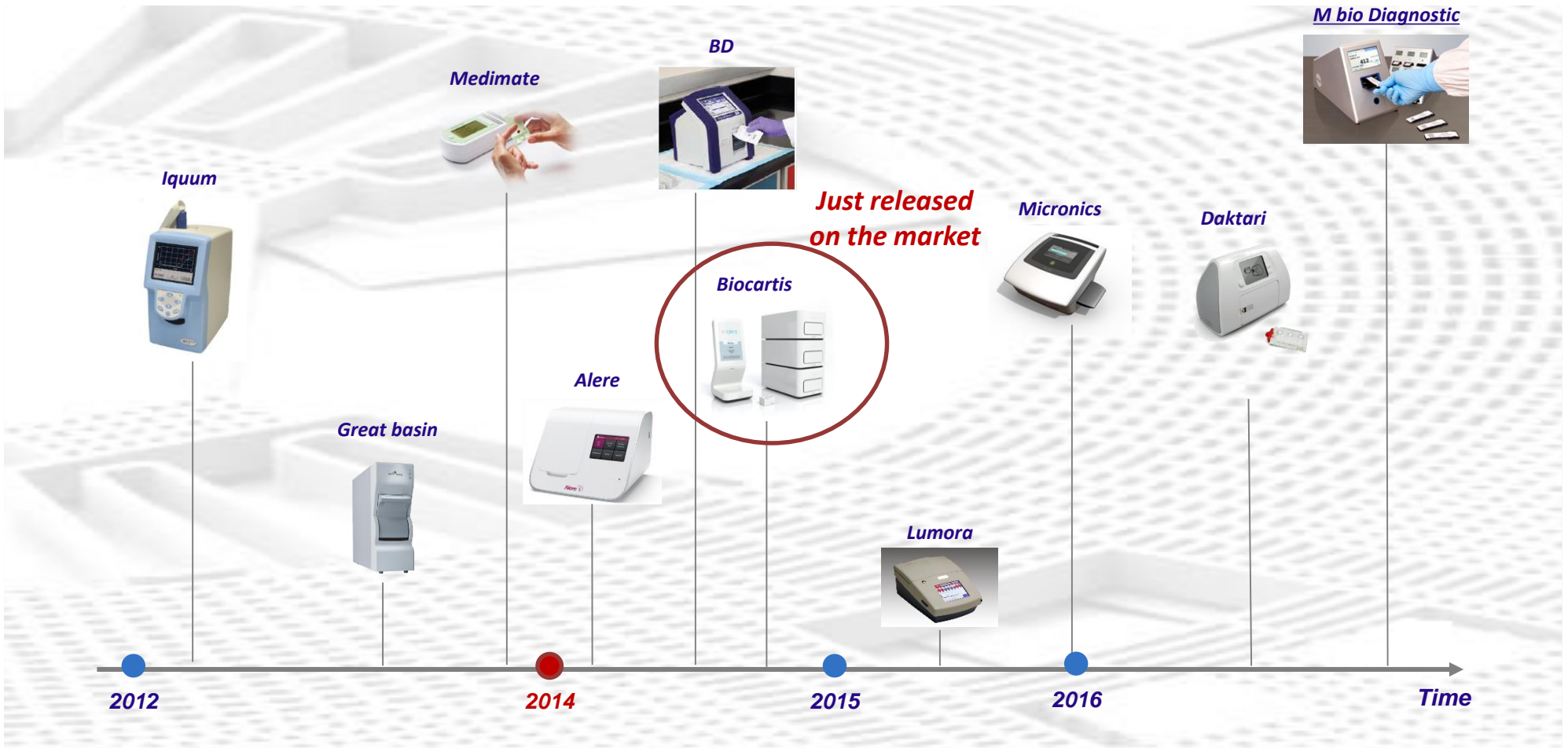
Triage

Top 10 Point of Care Players in 2013

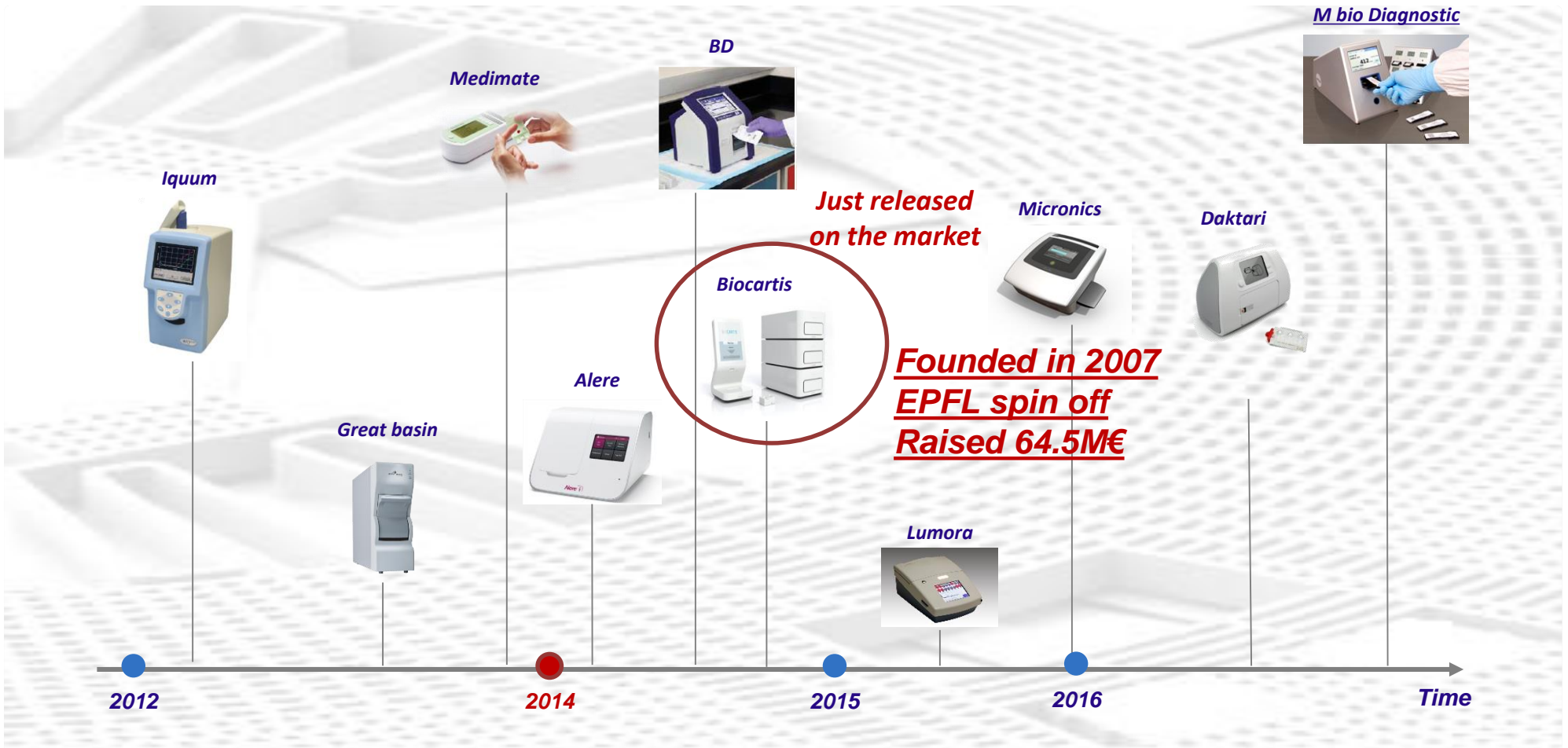
Top 10 Point of Care Players Market Shares in 2013



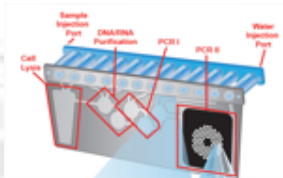
New products are coming on the market



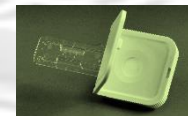
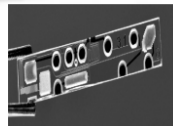
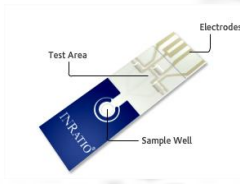
New products are coming on the market



Microfluidic Device standardization?



Microfluidic chip



***The design of microfluidic chip is highly depending on the application!
We will not see a standardization in the design itself.***

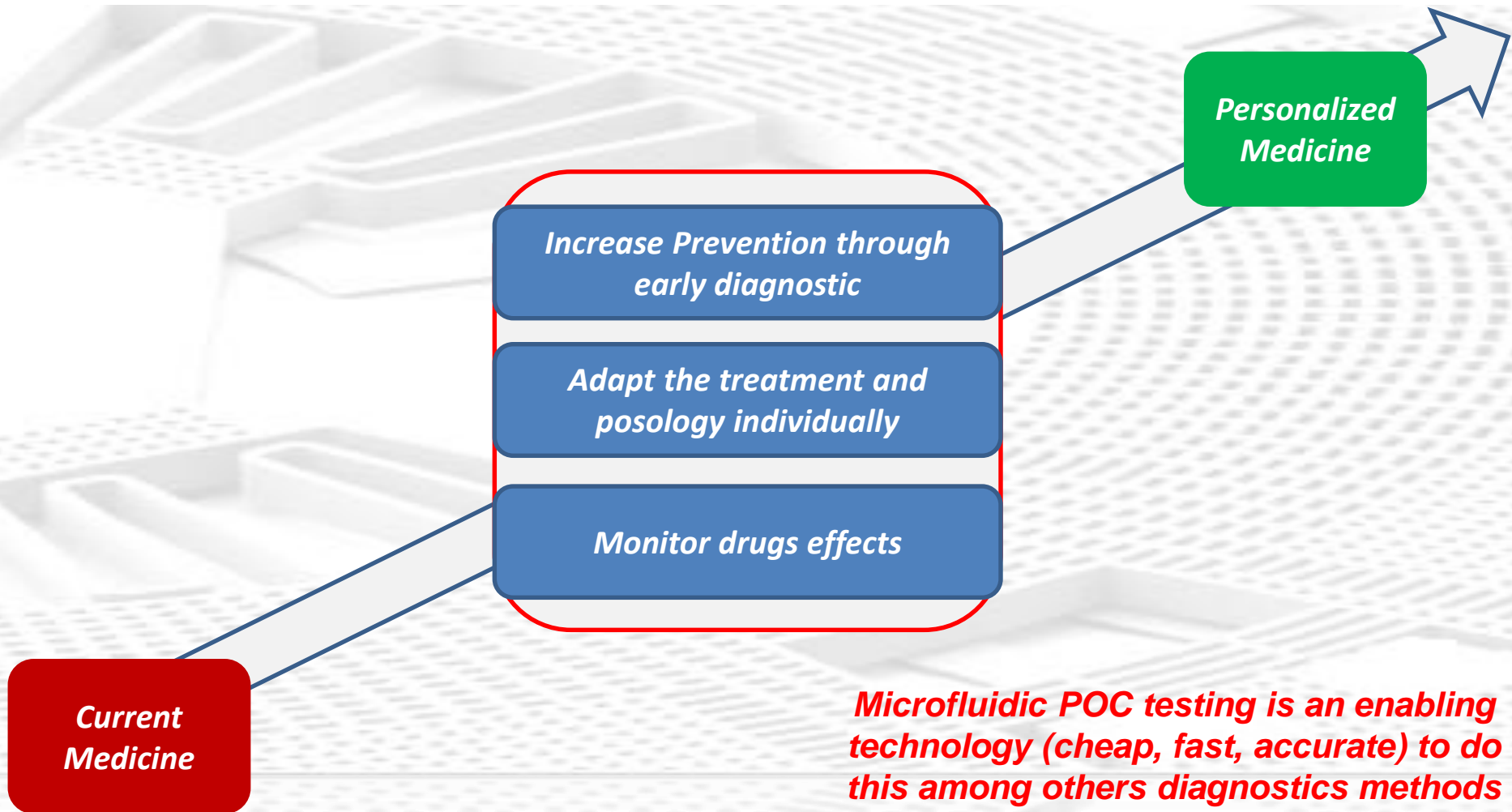
Market structuration

- Nevertheless, some standards could appear for:
 - Materials
 - Interface between chips and external world
 - Reagents storage
 - Reagents deposition
 - System for fluid management on chip (pumps, valves...)

Participants in Microfluidic consortium



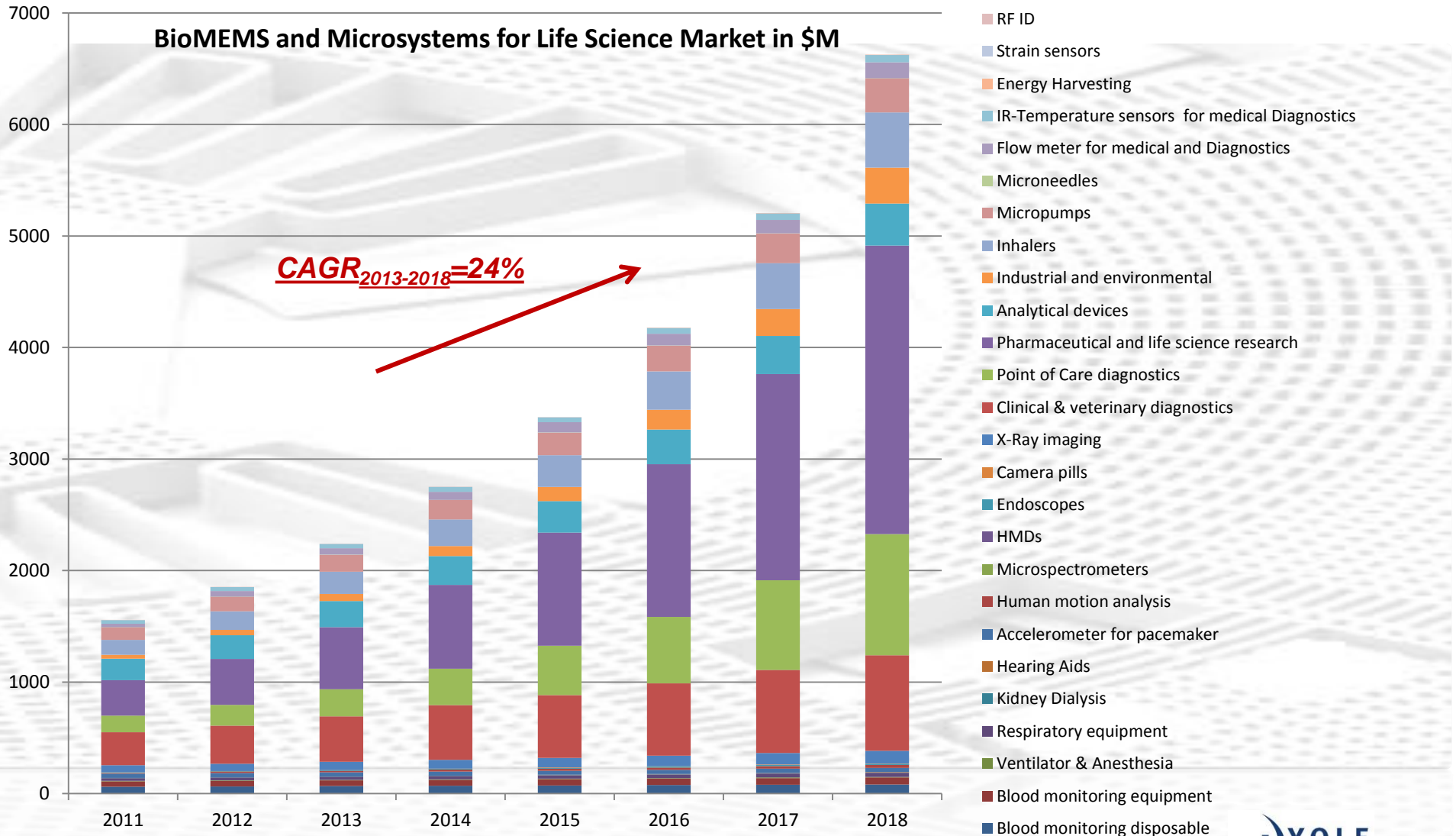
Requirements and trends



Microsystem Devices for Healthcare Applications

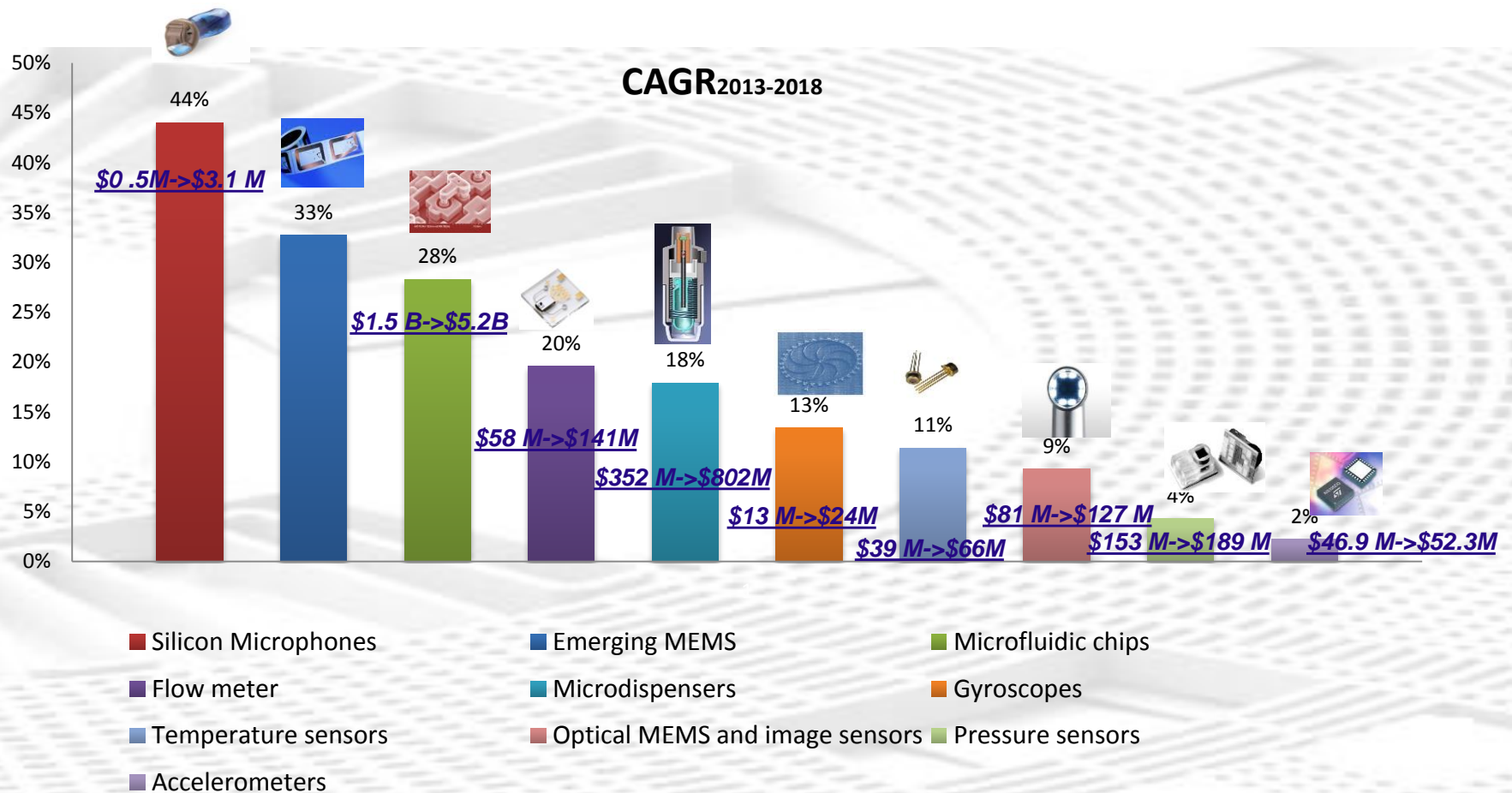
2011 & 2018 market in M\$

EXECUTIVE SUMMARY



CAGR₂₀₁₃₋₂₀₁₈ by Device

EXECUTIVE SUMMARY



Examples of Players by Device Technology (not exhaustive list)

Device Manufacturers

Pressure sensors



Silicon Microphones



EPCOS

Accelerometers



Systems Manufacturers



microlife®

OMRON



oticon
PEOPLE FIRST

PHONAK
hearing systems



Medtronic

ela^{medical}

Boston Scientific
Defining tomorrow, today.™

Examples of Players by Device Technology (not exhaustive list)

Device Manufacturers

Systems Manufacturers

Infrared
temperature
sensors



Micro dispensers
for
drug delivery



Emerging
MEMS

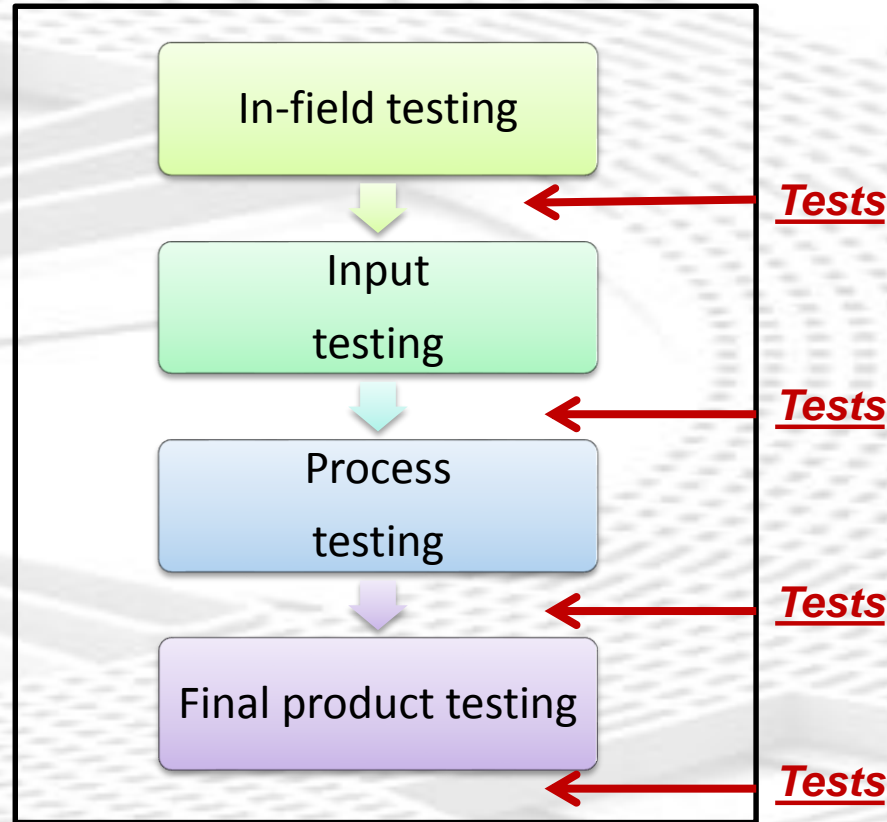


Only at research level
today



Agri-Agro Food Production Chain

Production Chain
for Agri-Agro
Food products



Consumer
market



Testing Requirements Depend on the Step

	In-field testing	Input testing	Process testing	Final product testing
<i>User segments</i>	Phytosanitary and seed companies Farmers Agro-cooperatives	Food manufacturers Traders	Food manufacturers	Food manufacturers Food marketers Retailers
<i>Motivations</i>	Prove raw material quality	Control purchased ingredients	Optimize the quality/cost ratio Economical drivers	Comply with safety regulations
<i>New technologies demand</i>	Medium	Strong	Strong	Medium
<i>Desired solution</i>	On-site testing Portative solution Low-cost	On-site testing Portative solution Low-cost	On-line testing Automatized	Sampling (statistically representative) and laboratory testing

← Tests realized by industrial company →

Inputs

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Markets

How to generate value from European research projects results?

COWIN approach: no wonder ... make things happen



Engaging ourselves in the play ground to generate value for
European collaborative research projects

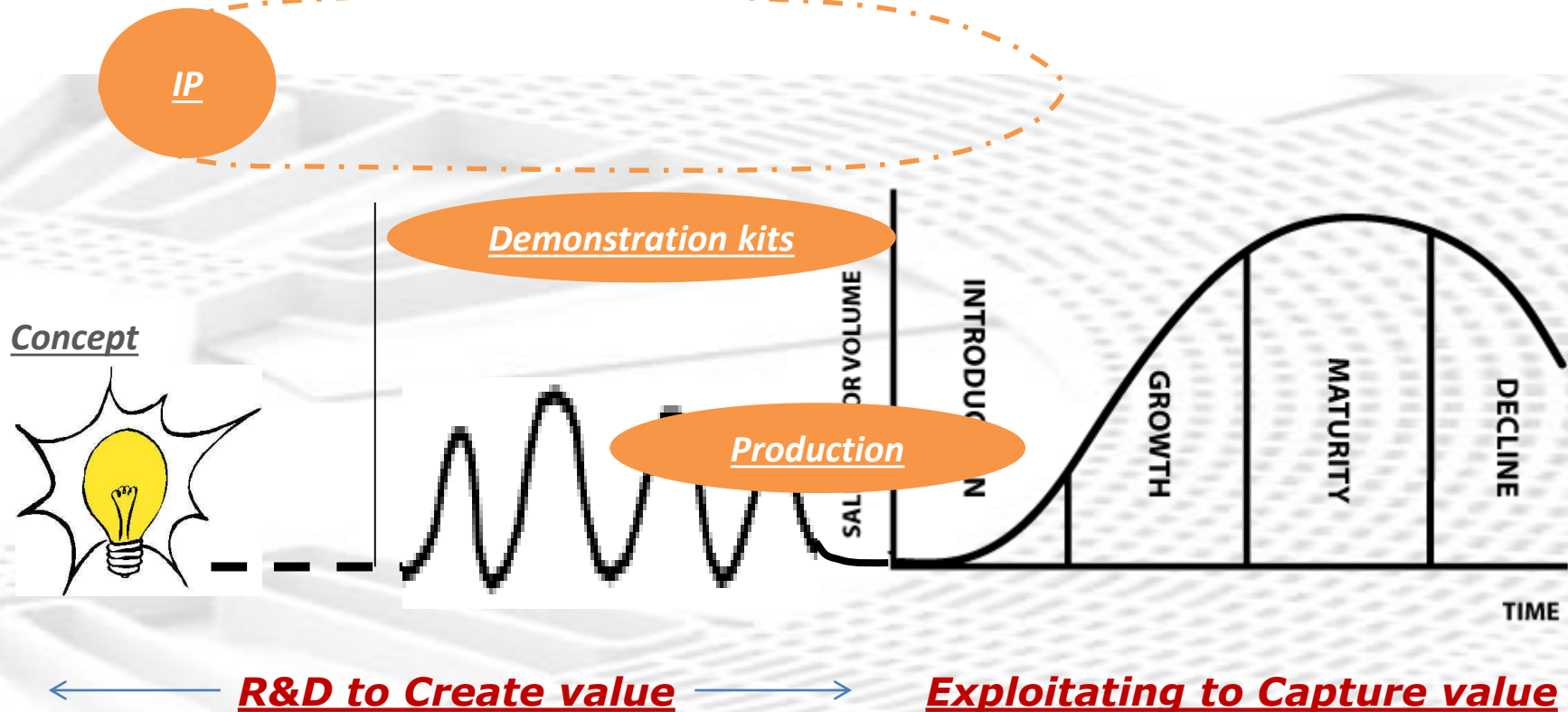


COWIN process generated value for FP6 and FP7 technology exploitation:

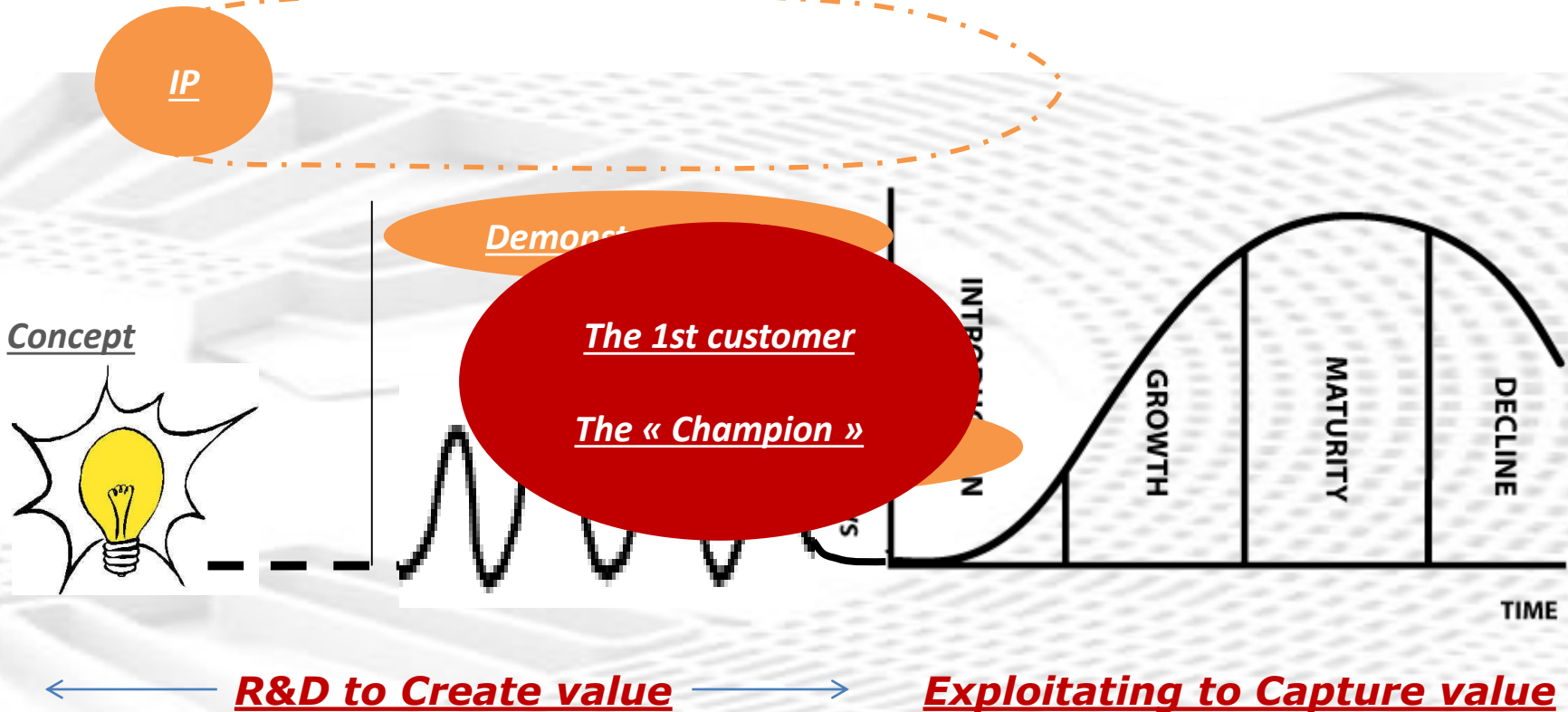
- 5M€ direct investment from industrials and private investors;
- 19M€ supported innovation projects with an exploitation focus with 6,9M€ investment by industry.
- 14,7M€ investment in companies exploiting FP6 and FP7 research projects results were under discussion in March (5M€ reached by October 2014)



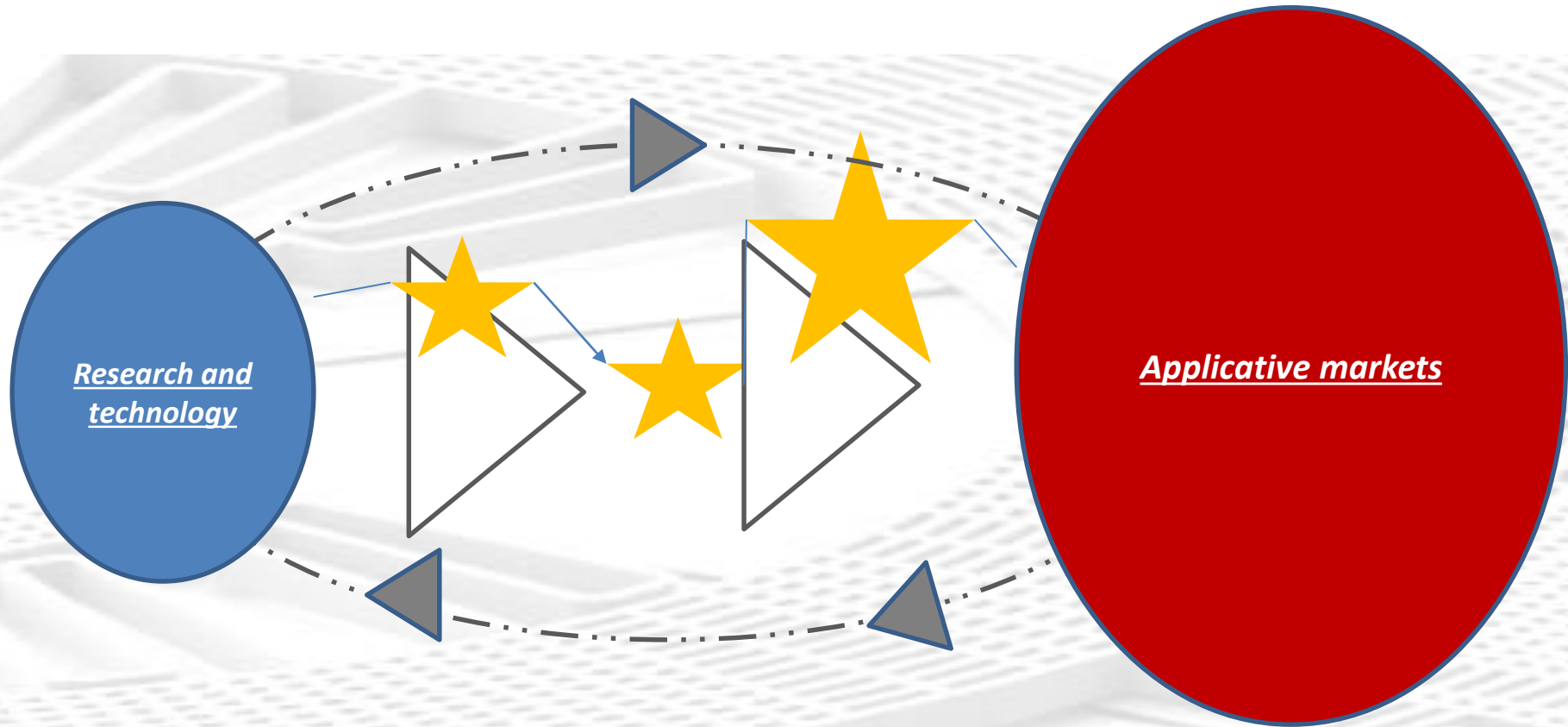
Pilars for exploitation



Pilars for exploitation



Structuring the innovation value chain



A fertile ecosystem for growth



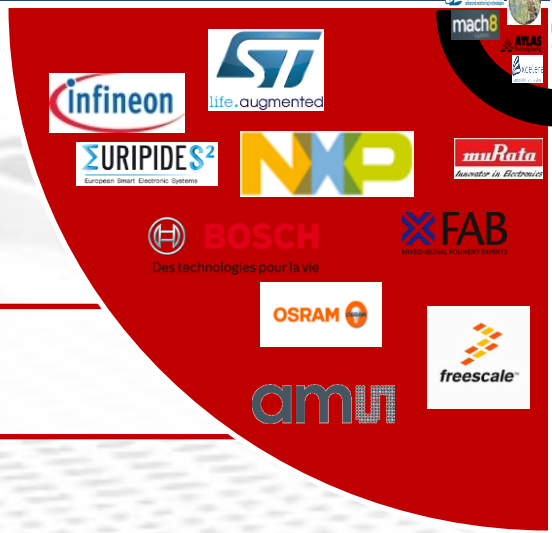
• Research results



• Private Investors
About 60 supporting COWIN



• Microelectronic players



1 200 potential users and integrators of smart solution



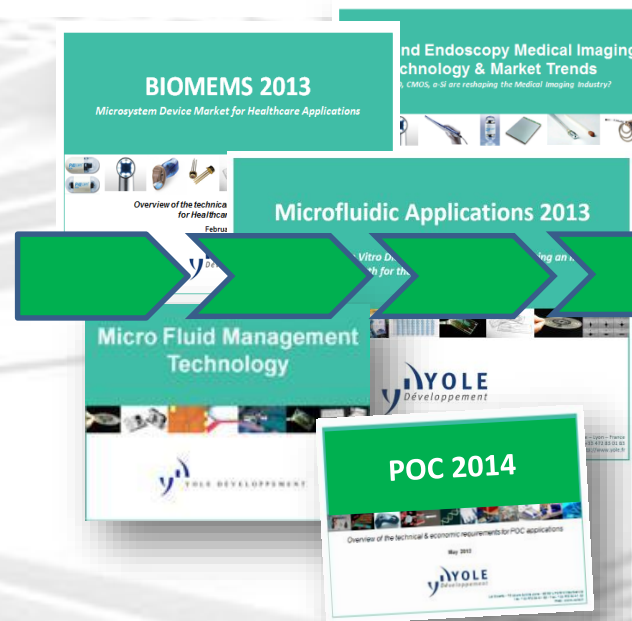
■ Panel session

- Jean-Charles Garcia – CEO Picometrics
- Jörg Nesler – CEO bi-flow
- Theo Meerts - Senior Director External Innovations DS
Janssen Research & Development, J&J
- Sebastien Cargou – Elvsys
- Eric Smith – CEO Biovolt
- Julie Guigal – Go Beyond

Yole Finance new activity under launch

Technologies and
Know-How

Systems
manufacturers



Markets

Yole new activity:
Value generation for RTOs and start-up companies

- Access to customers
- Strategic positioning
- Access to private funding

- **Contact**

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