



IoT in der Laboranwendung und Pharmaindustrie – Erfahrungsberichte und Trends

Eppendorf

- > Founded in 1945 in Hamburg-Eppendorf by Dr. Heinrich Netheler and Dr. Hans Hinz as a workshop for medical instruments, – still today 100% owned by these two families
- > The expert partner in life science laboratories, with the highest quality laboratory products and services
- > Leading position globally in most market segments served
- > 28 direct marketing/sales/service organizations worldwide



EPPENDORF

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Eppendorf – products

Liquid Handling



Manual
pipettes



Pipette tips



Automated
liquid handling



Dispensers



Combitips®



Pipette
controllers



Bottletop dispensers
and burettes

Cell Handling



Fermenters
and bioreactors



Single-use
reactors



Cell culture
and imaging
consumables



CO₂ incubators



Biological
shakers



Micromanipulators
and injectors



Electroporators

Sample Handling



Centrifuges and
vacuum
concentrators



Rotors and
accessories



Mixers and
temperature
control systems



Thermal cyclers



Photometers



Ultra-low
temperature
freezers



Multiwell plates



Sample prep
tubes

Eppendorf – Life Science Customers

Aca

Pha

Agr

Hea

For

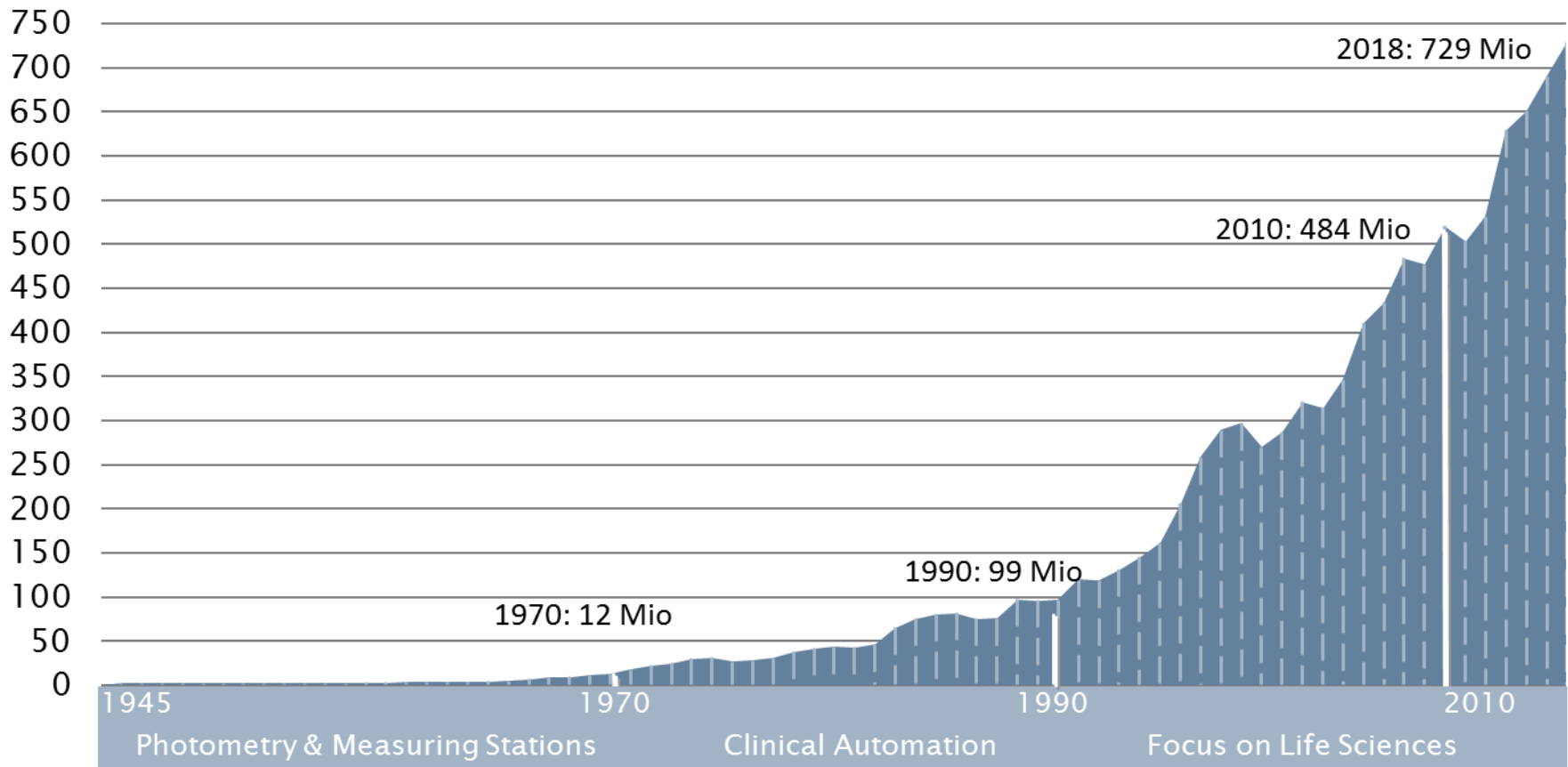


Premium quality for our
customers – also in space

Alexander Gerst, Commander of ISS, using an Eppendorf Research® plus Pipette in his research to fight Parkinson's while aboard the International Space Station.

A 70-year successful development

Mio Euro



Trends in Pharma

THE "S-CURVE" OF TECHNOLOGY DISRUPTIONS

Horizon 1:

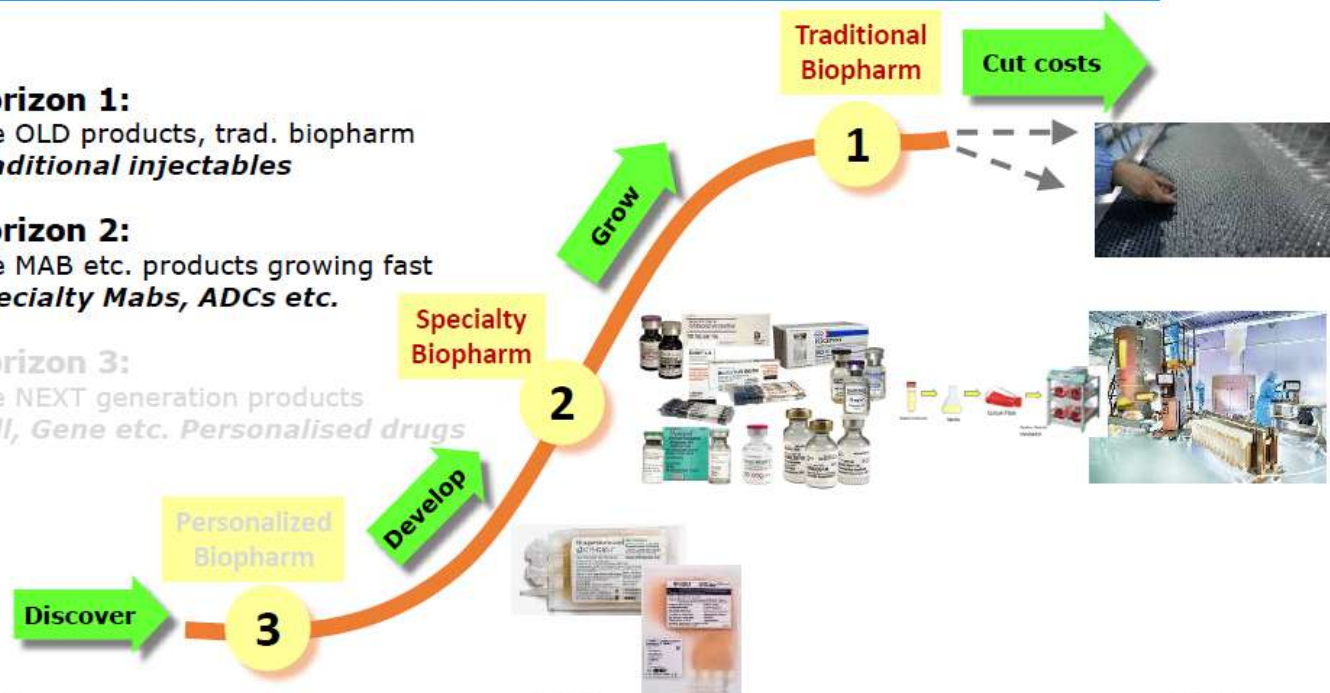
The OLD products, trad. biopharm
Traditional injectables

Horizon 2:

The MAB etc. products growing fast
Specialty Mabs, ADCs etc.

Horizon 3:

The NEXT generation products
Cell, Gene etc. Personalised drugs



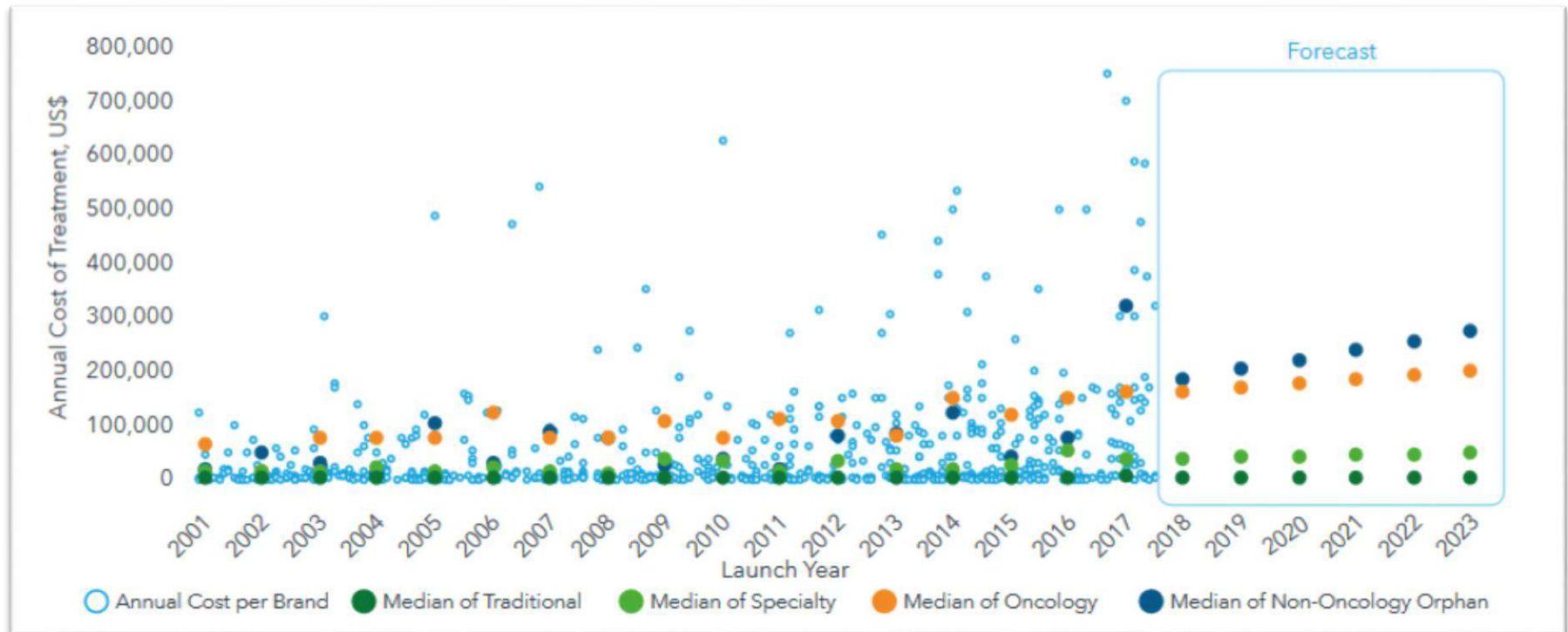
ZETA Symposium

04/03/19

Page 14

Gert Moelgaard, ZETA Symposium 2019

Trends in Pharma

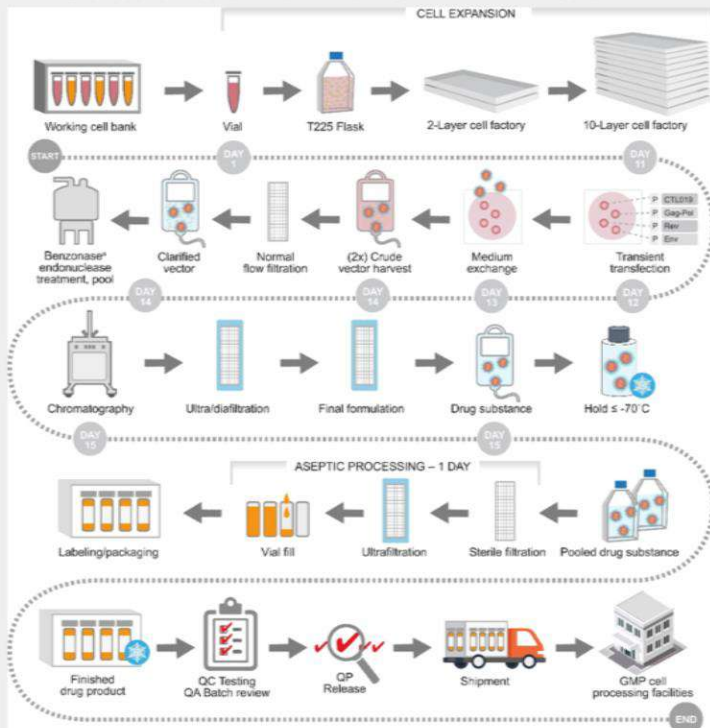


Trends in Pharma

STATE OF THINGS: MANUFACTURING

- Mostly labour-intensive lab processes

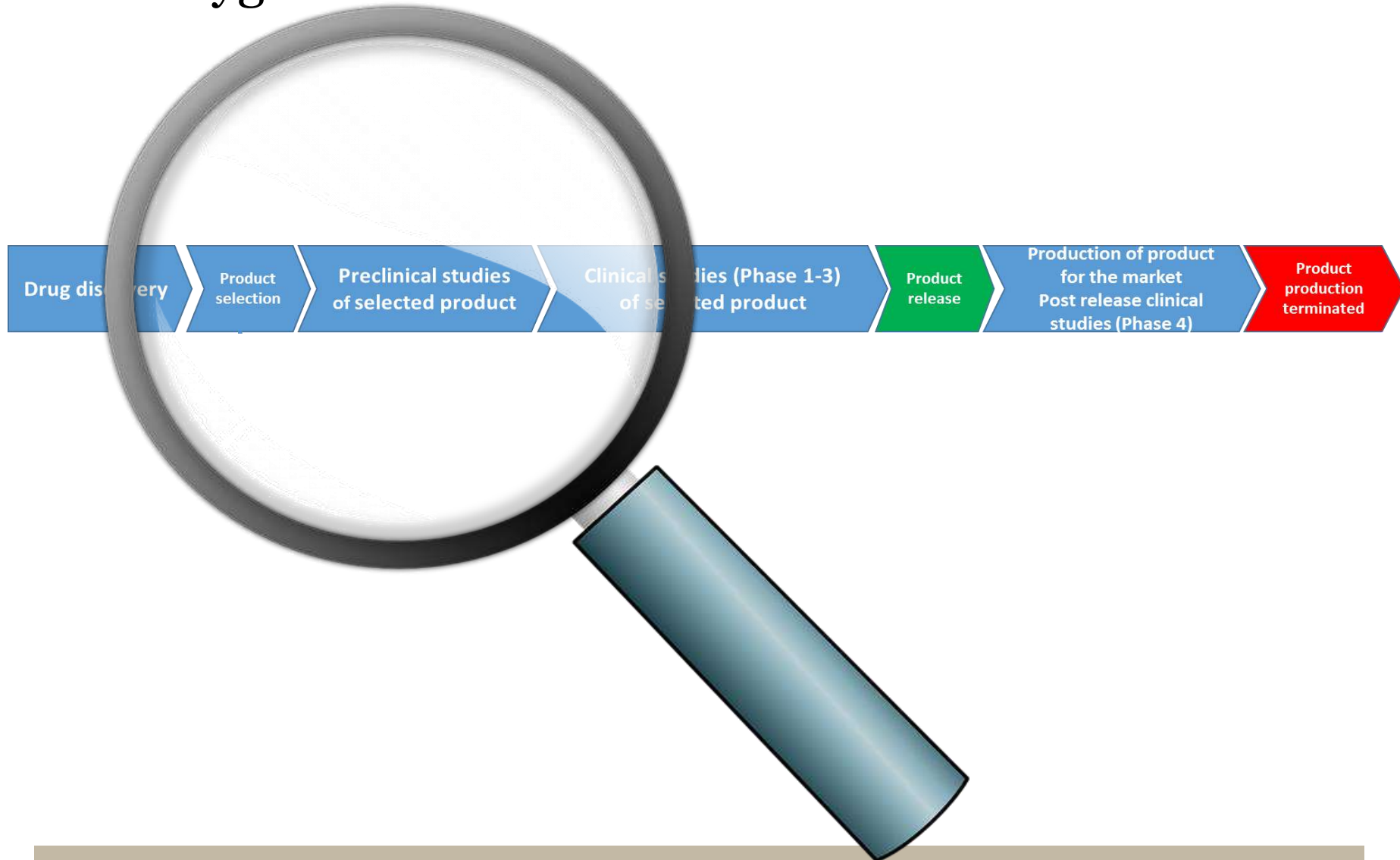
Process Scheme CAR-T Cell



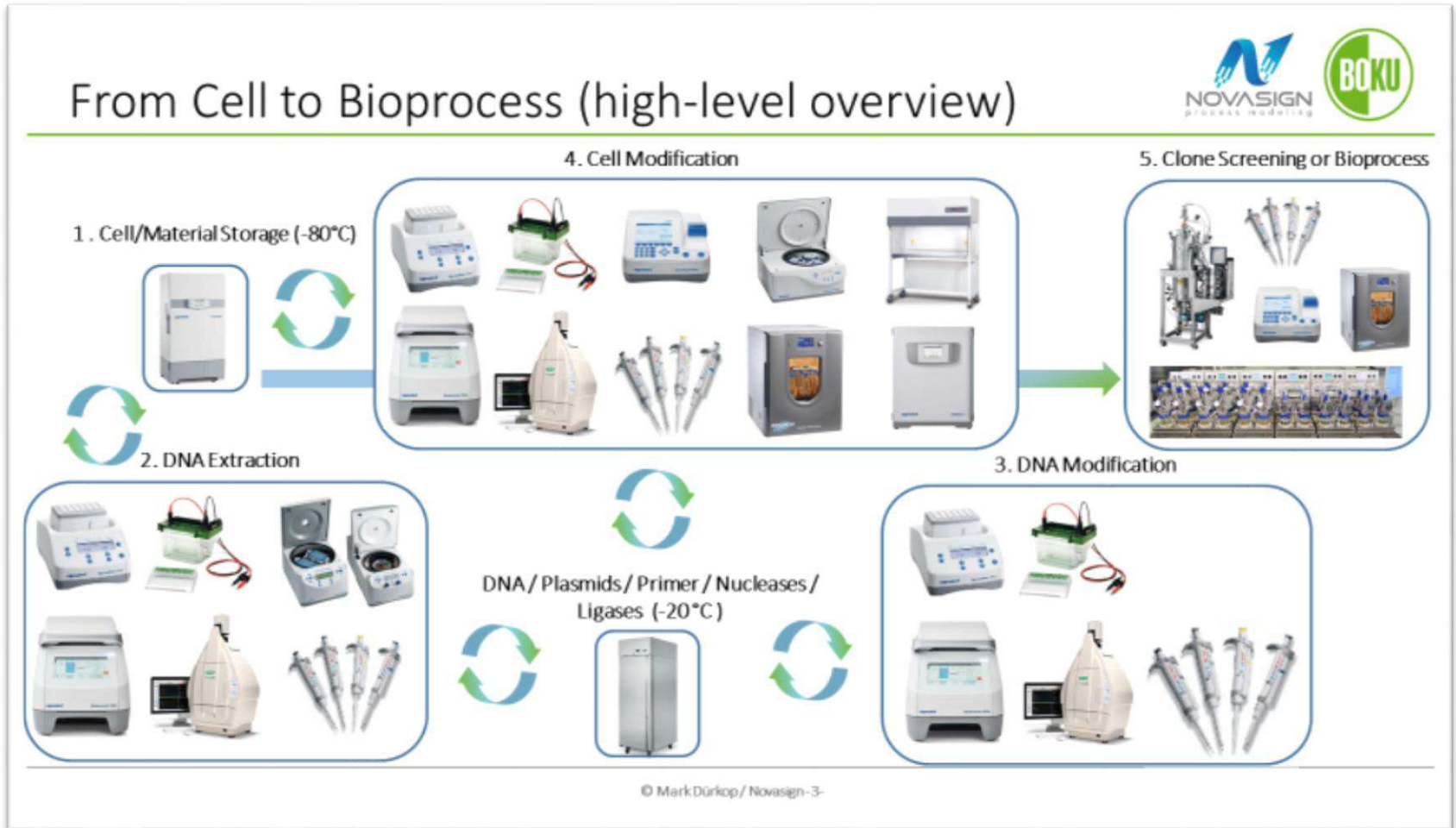
It is a Lab Process
for manufacturing!



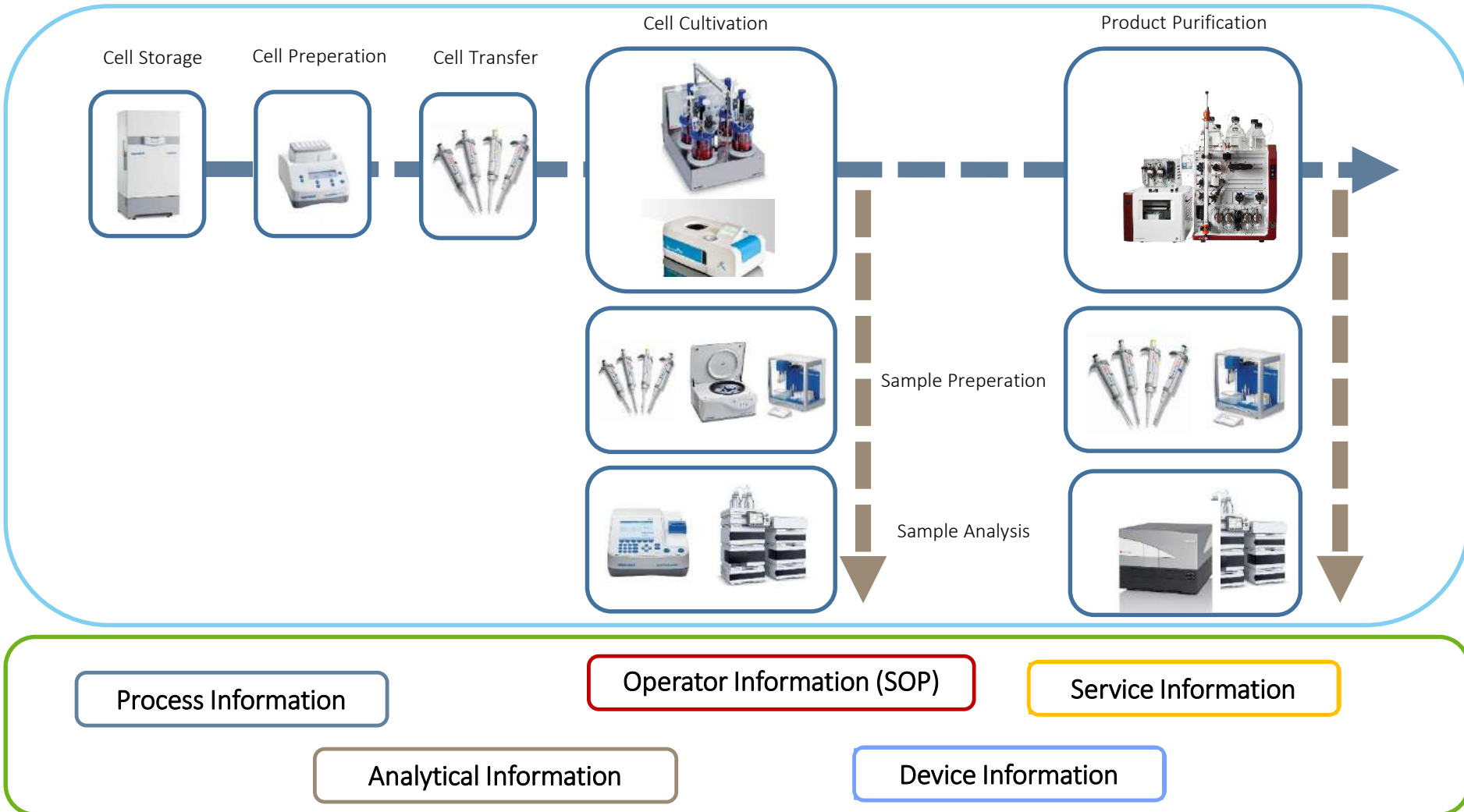
Our Playground in Biotech & Pharma



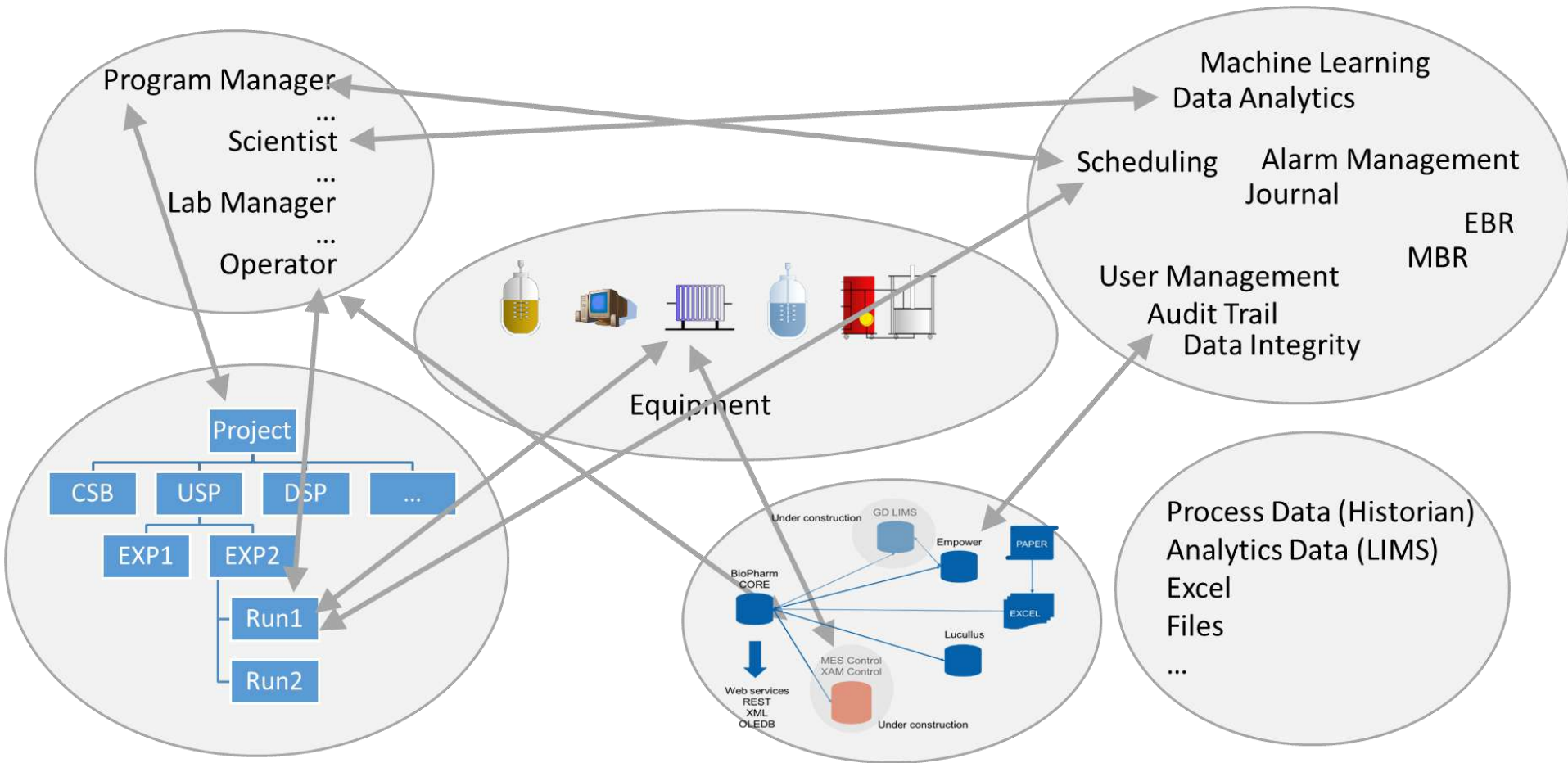
Our Playground in Biotech & Pharma



Our Playground in Biotech & Pharma



Status, Needs, Technology

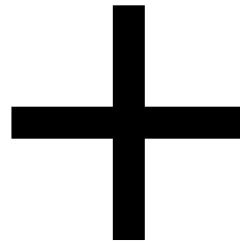


Applied IoT

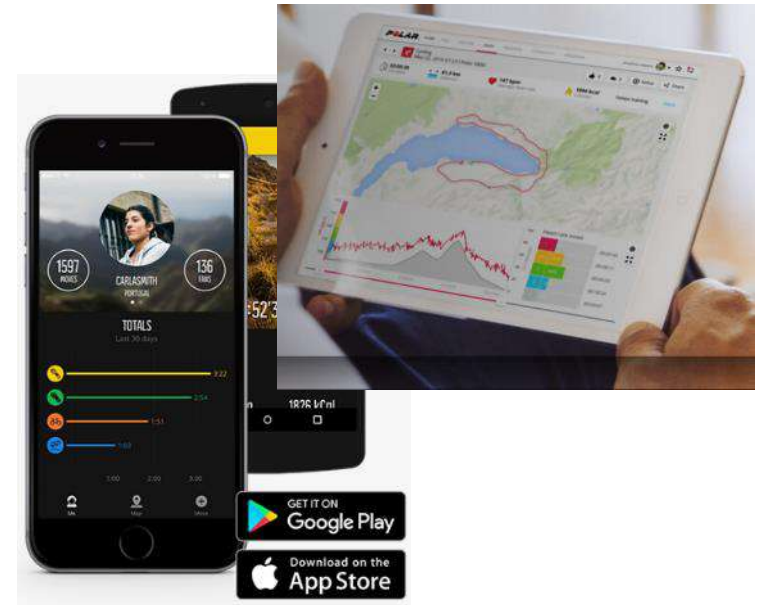
Smart Device



Heart Rate, Pace, Time



Cloud



Maps, Statistics, Analytics

Freezer Story

Smart Devices

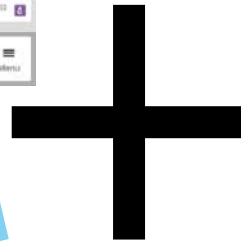
Cloud



Onboard features

Programs, Alarms, Trends,...

**Improving/Upgradability
in the field (Over-the-air)**



Additional features

Monitoring, Notification, Recurring Tasks, Maintenance, ...

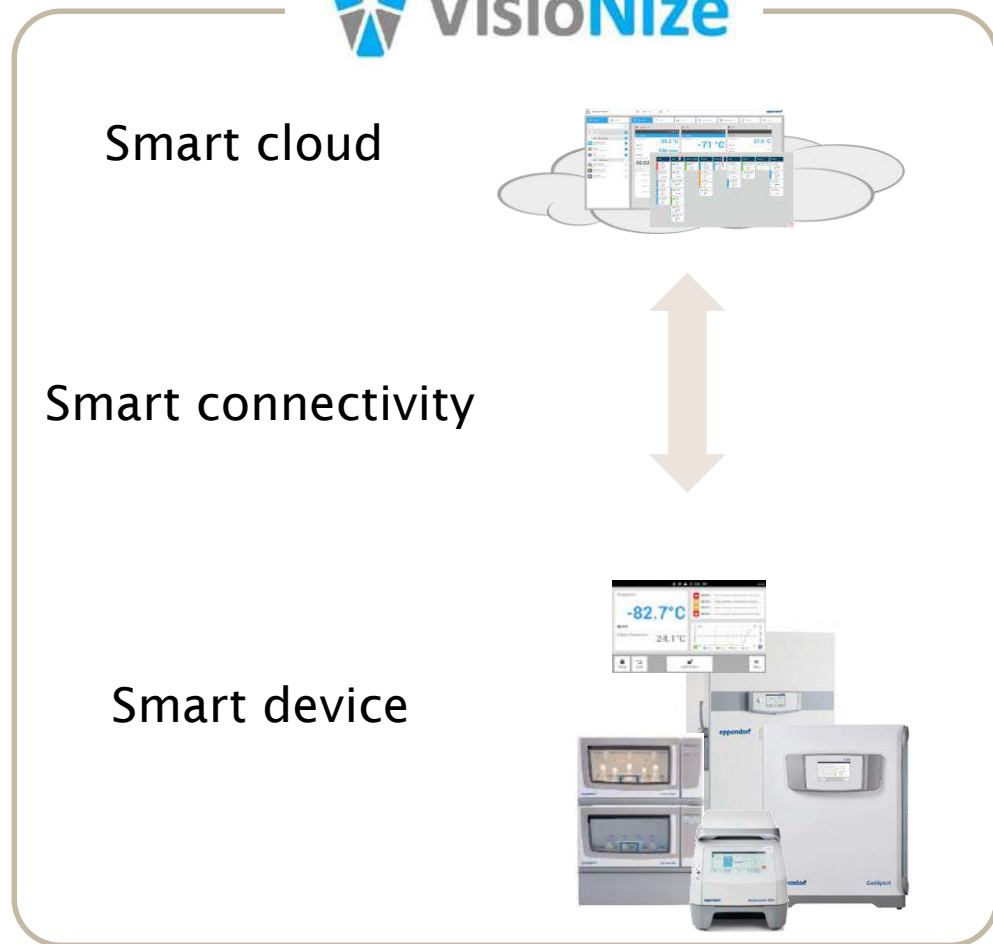
Monitor & Analyze Performance Data

Source: Eppendorf 2018

Visionize – an IoT Ecosystem



Technical framework



Source: Eppendorf 2018

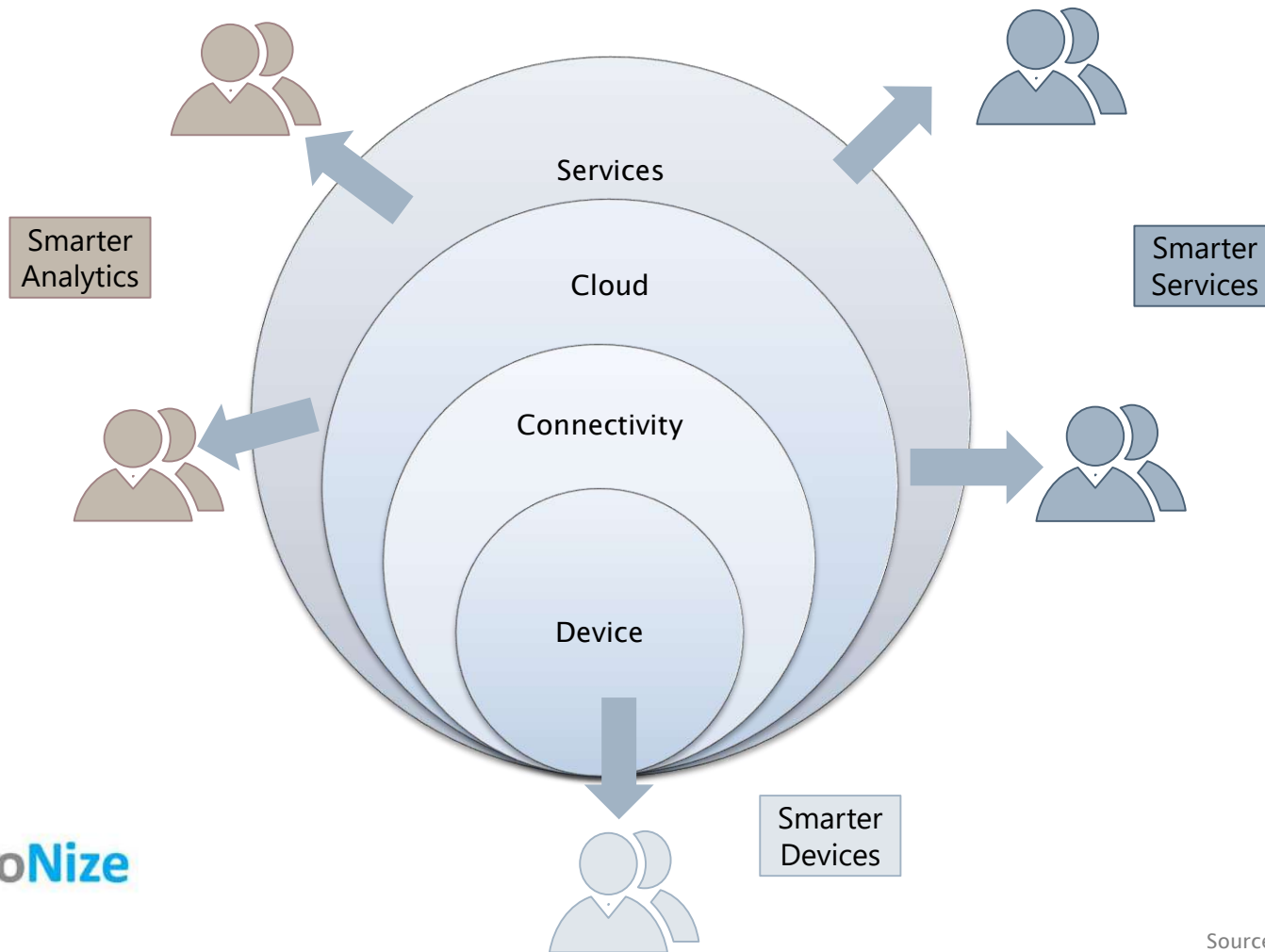
Visionize – an IoT Ecosystem

Service Framework



Source: Eppendorf 2018

Visionize – Services enabled



Source: Eppendorf 2018

Strategies

