

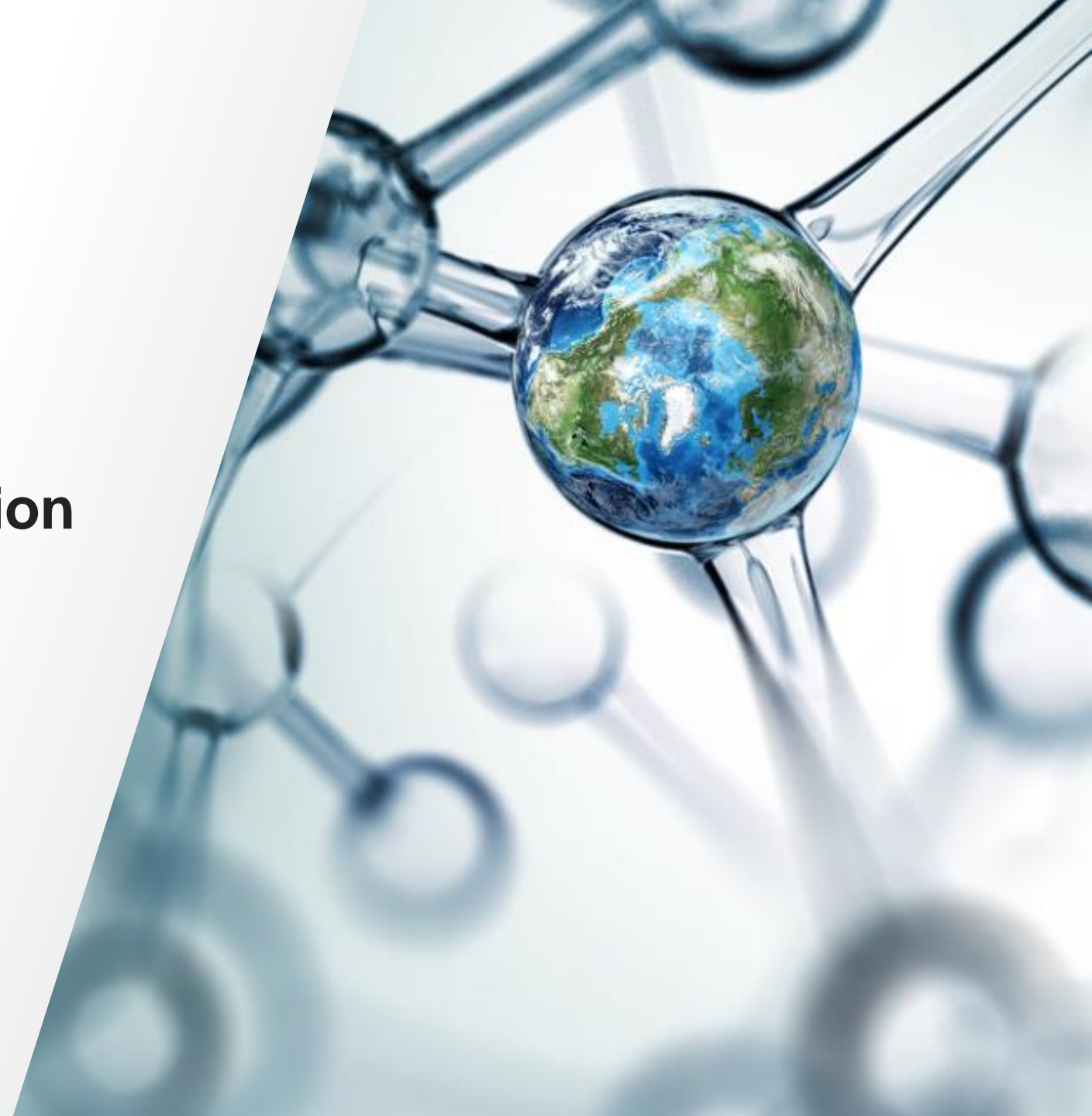
ESI-Symposium

Business Driven Integration

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27 September 2022

 The world leader in serving science



We are the World Leader in Serving Science

ThermoFisher
SCIENTIFIC

ThermoFisher
SCIENTIFIC

thermo
scientific

applied
biosystems

invitrogen

fisher
scientific

unity
lab services

patheon

PPD



\$40B

revenue



110,000

employees



\$1,4B

invested in R&D



5,700

R&D scientists and engineers

Industry-leading scale

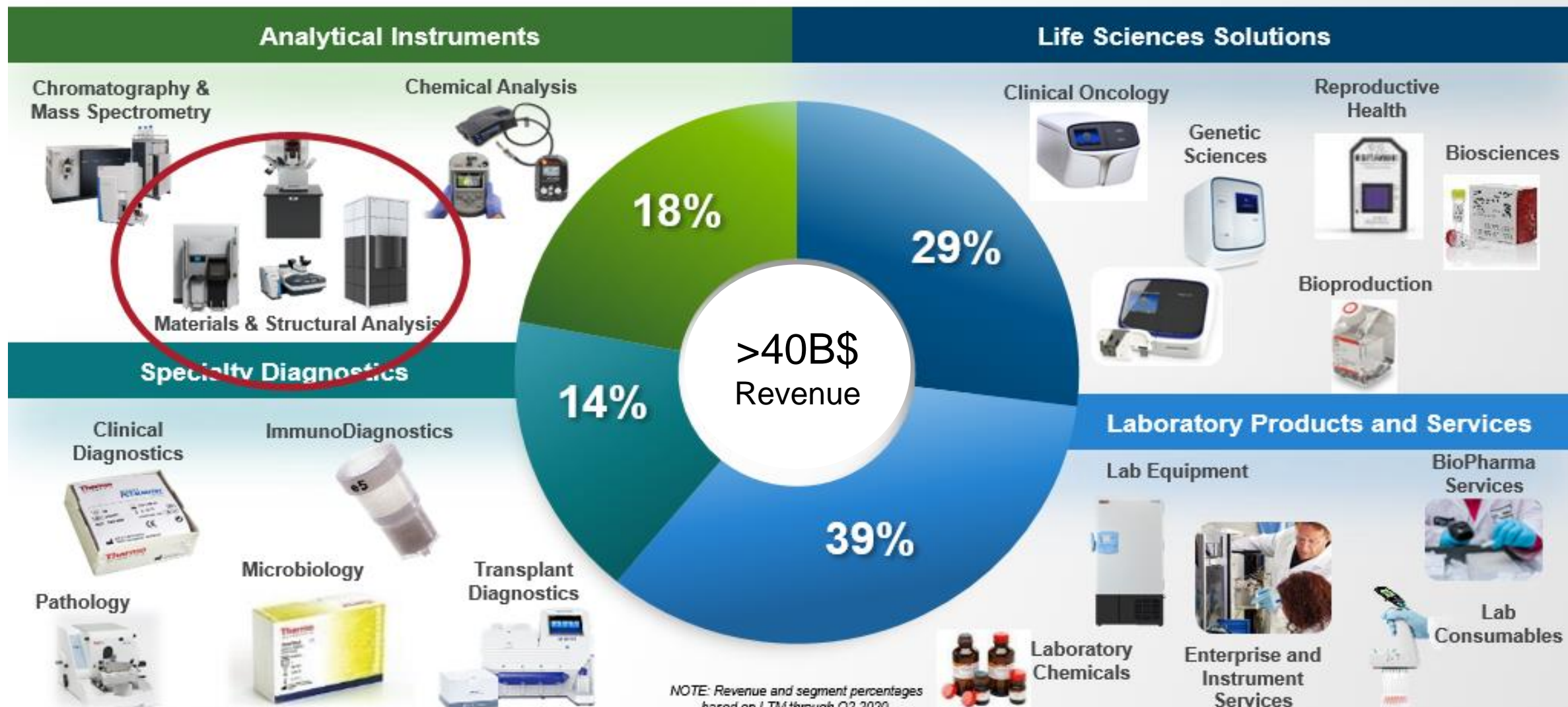
- Unparalleled commercial reach
- Unique customer access
- Extensive global footprint

Unmatched depth of capabilities

- Leading innovative technologies
- Deep applications expertise
- Premier productivity partner
- Comprehensive services offering

Powered by our Practical Process Improvement (PPI) Business System

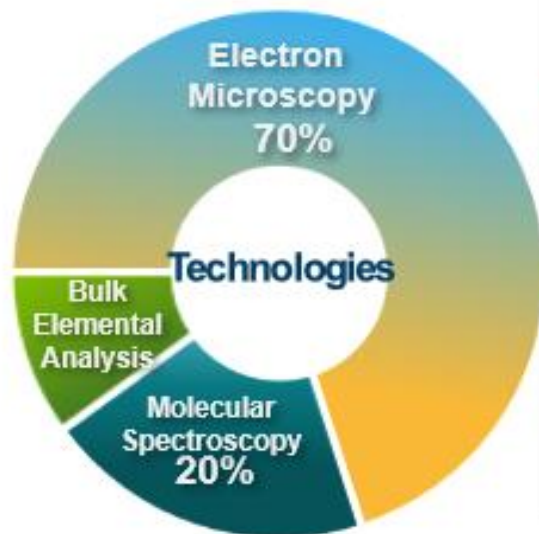
Complementary Segments



NOTE: Revenue and segment percentages based on LTM through Q2 2020.

Proprietary & Confidential | 28-Oct-2020

Material and Structural Analysis: Business Profile



Global Footprint

- 5,000+ employees globally
- 750+ R&D engineers including 300+ software engineers
- Main operations and R&D sites:
 - Czech Republic (Brno)
 - Netherlands (Eindhoven)
 - USA (Madison WI; Hillsboro OR)



ExSolve 2 WTP
Dual Beam TEM Sample
Prep System

Titanium Cryo
Electron Microscope

Note: All Financials are pro forma to include FEI; End market and regional mix based on management estimates



Raman DXR2xi
Microscope



Talos F200C TEM
Electron Microscope

ARL EasySpark
OES Spectrometer



Business Driven Integration

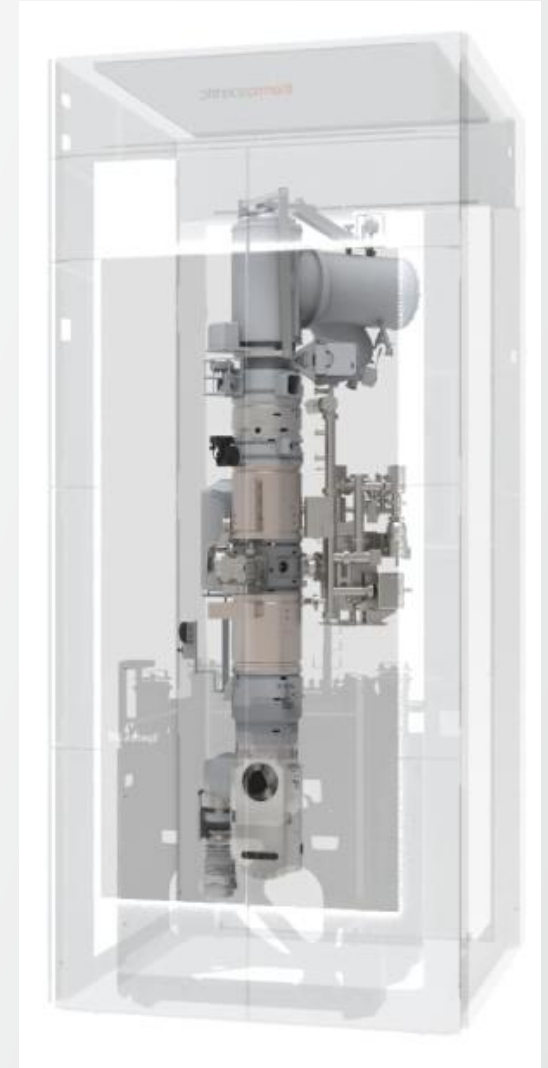
High-Tech System Development Challenges

Integration into Customer Environment becoming a more prominent factor

- Integration Complexity
- Large Configuration Space
- High Level of Customization

Architectural Challenges

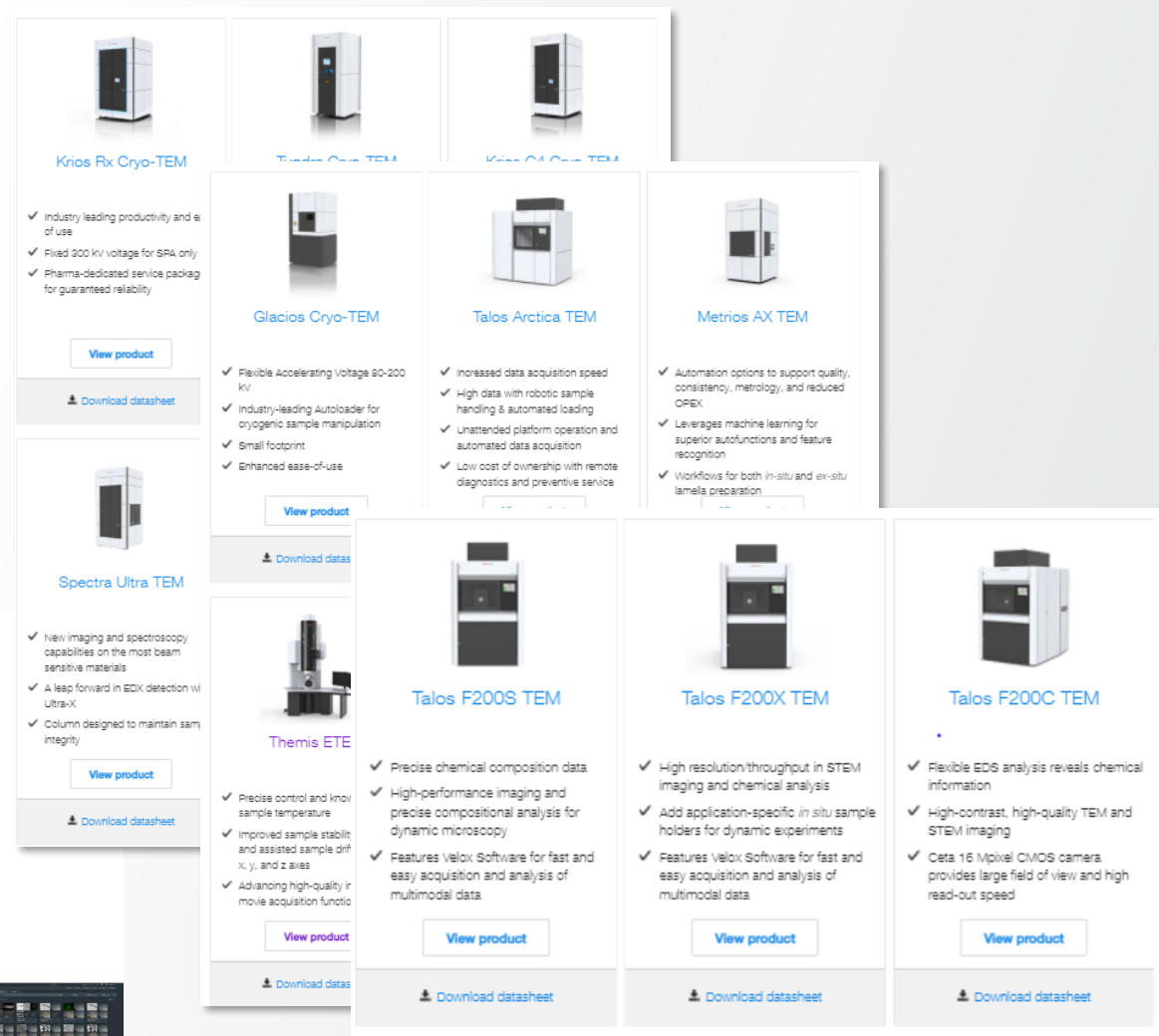
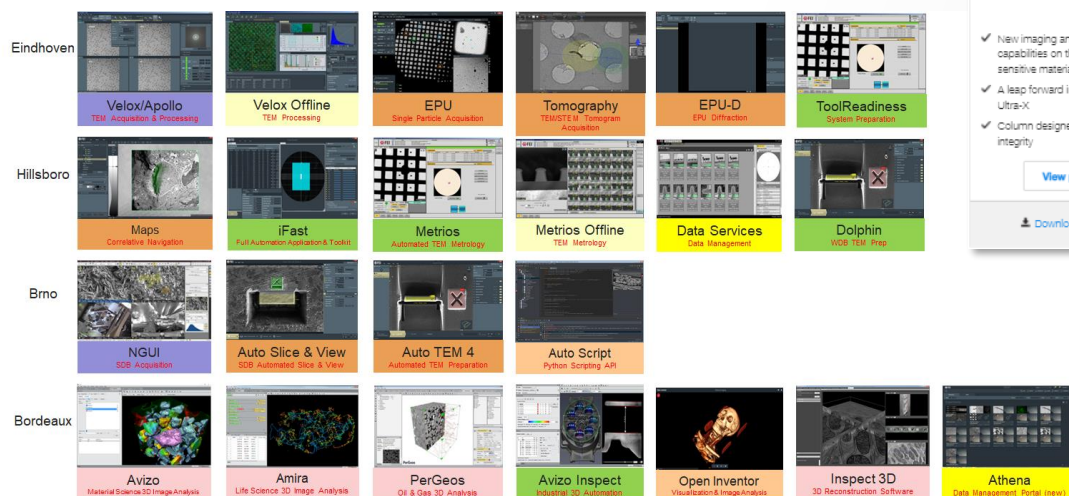
- Modularity & Platform Design
- Variance Handling
- Compatibility
- Maintenance



Business Driven Integration

ThermoFisher Scientific (TEM) Example

- 15 active commercials TEM products
- More than 20 customer facing applications
- More than 400 Modules
- 1 TEM Server Software Stack
- 1000+ active configurations

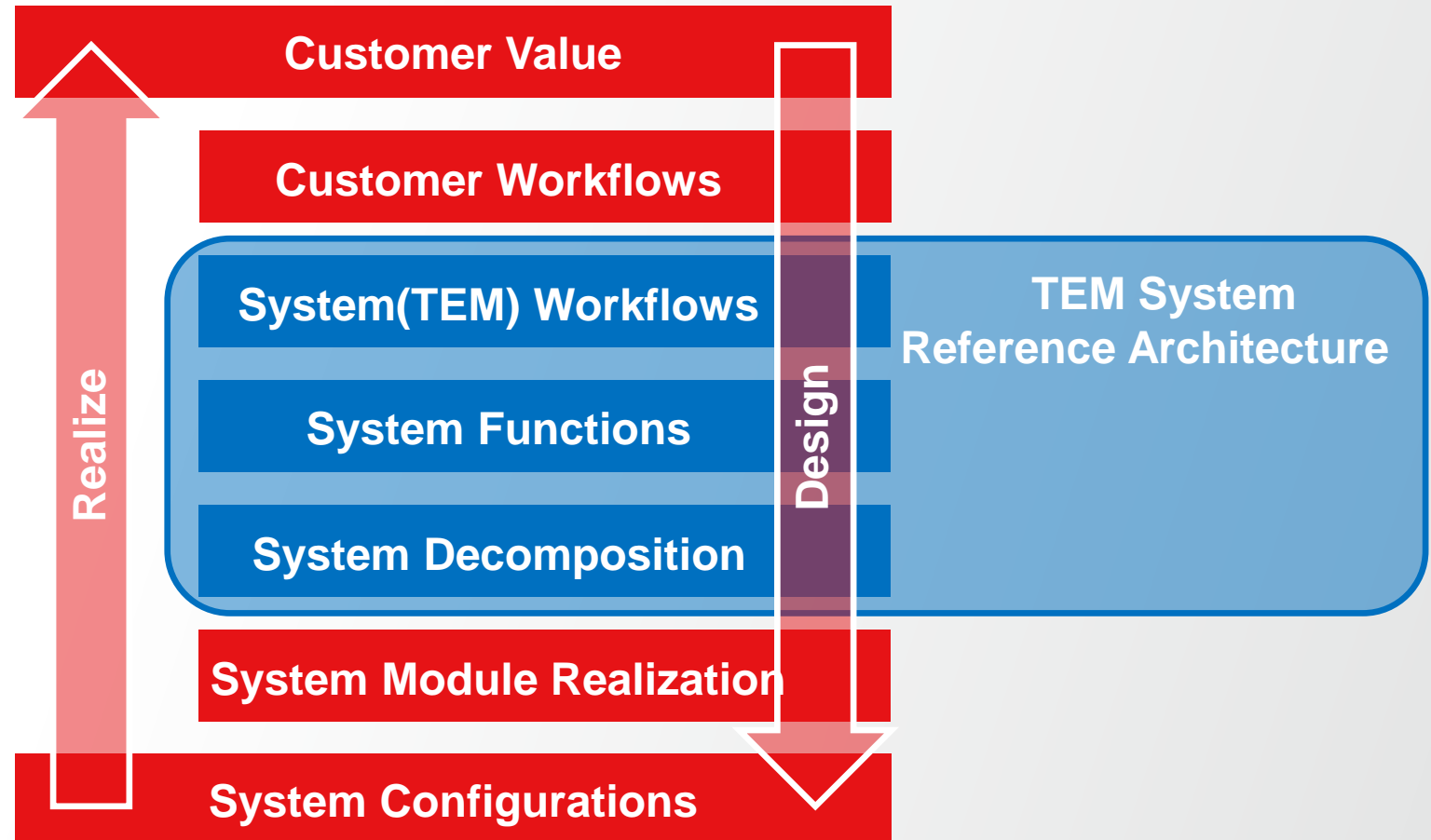


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TEM System Reference Architecture

Architecture serves Customer Value

- Customer value designed in
 - KPI's identified at top level
 - Decomposed at subsequent levels
 - Verified upon delivery
- Platform Architecture
 - Enable Variance Handling
 - Ensure Compatibility



Business Driven Integration

Development & Engineering Considerations

In-house Development vs. partnering or co-development

- Increasing product complexity increases demands on Development and Engineering
 - Early Integration
 - Performance / Reliability Predictability
- Partners to design parts or complete Modules?
 - Partner Technological Maturity
 - Capability to develop complete Modules
 - Cost aspects

