

Zinnov Zones 2018

ER&D Services

December 2018

The Zinnov logo, featuring the word "zinnov" in a blue sans-serif font, with a stylized blue wave graphic to its right.

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ER&D Services Market Overview

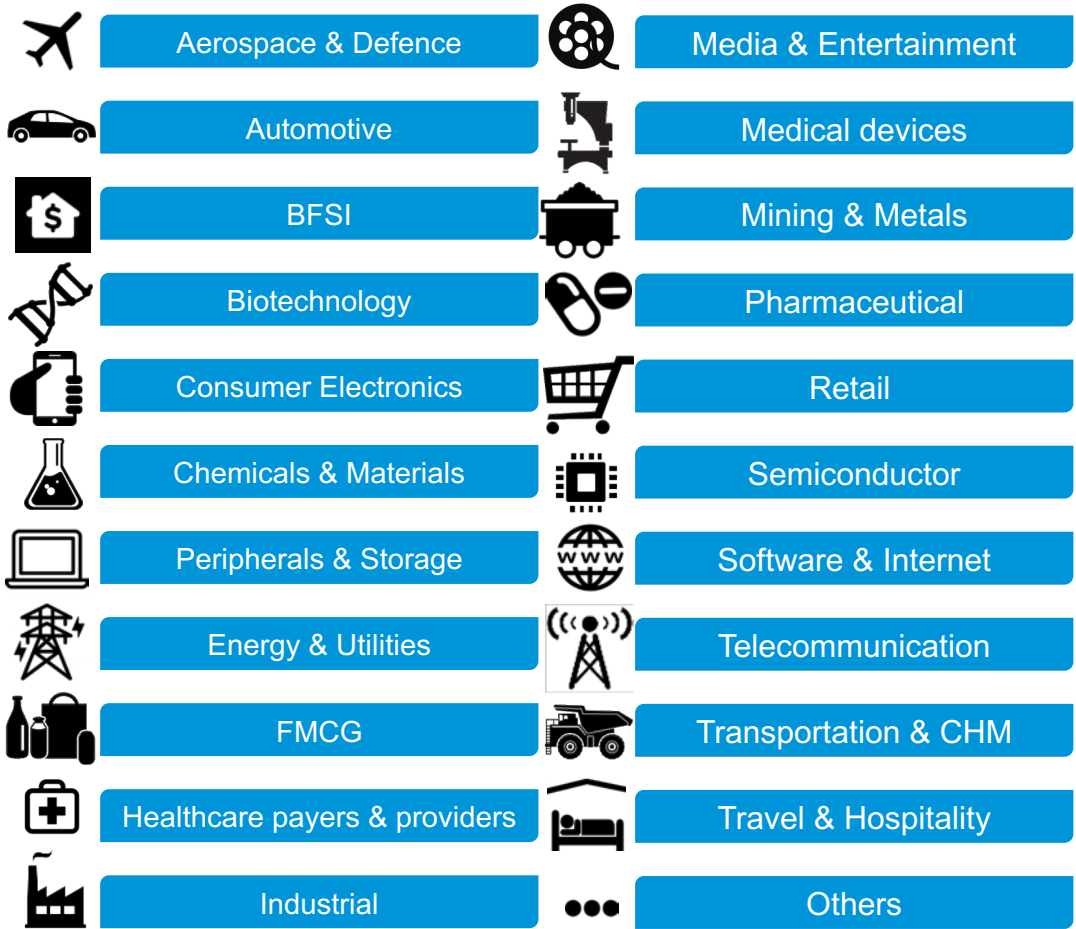
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Zinnov Zones ER&D Service provider Ratings 2018

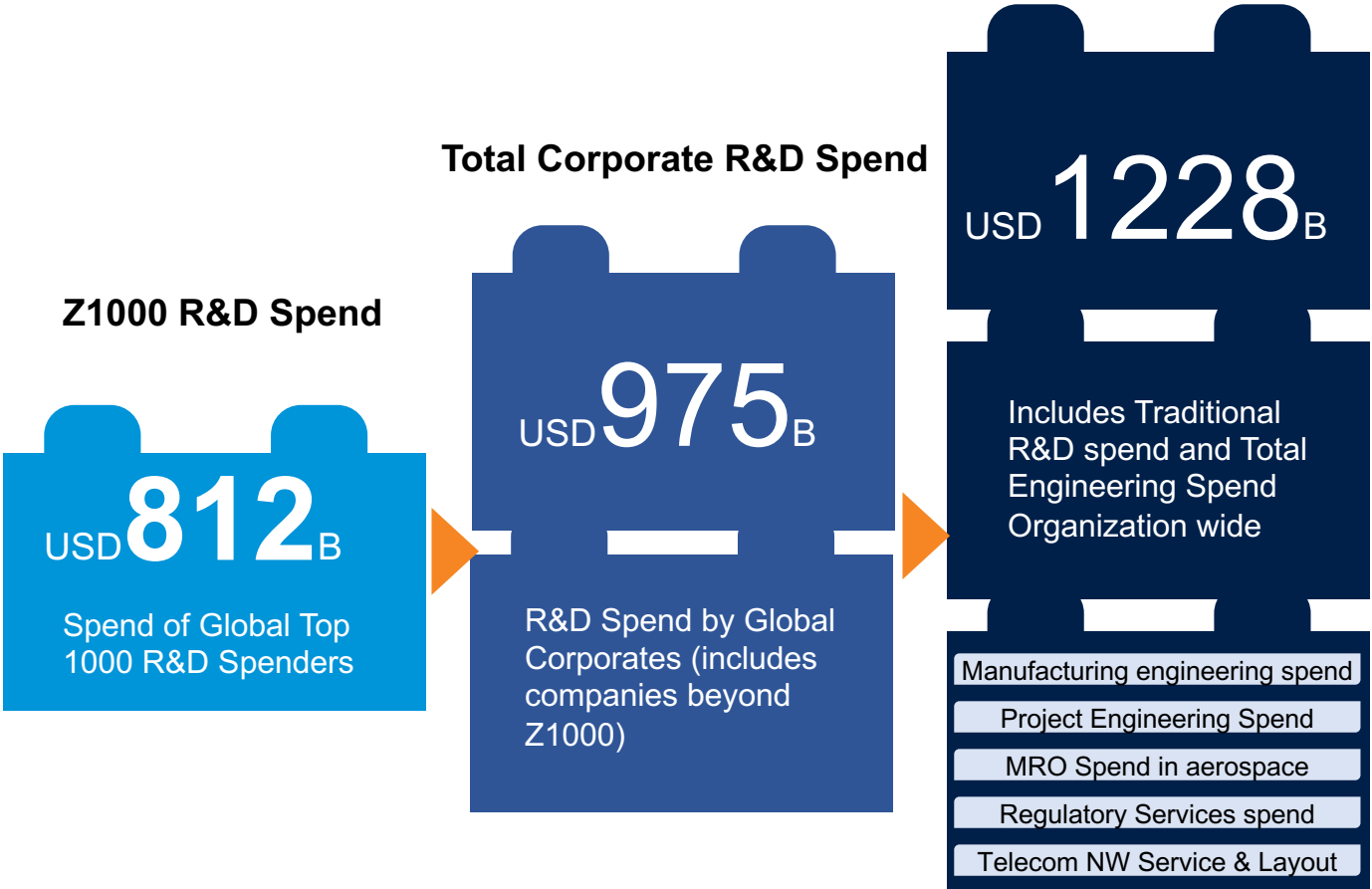
- Global Corporate ER&D Spend
 - ❖ Z1000 R&D Spend by vertical
- Overall Digital Engineering Spend
 - ❖ Digital engineering spend by vertical

Global Corporate Engineering and R&D Spend is in excess of **USD 1.2 Trillion** in 2018

Z1000 organizations



Total Corporate ER&D Spend

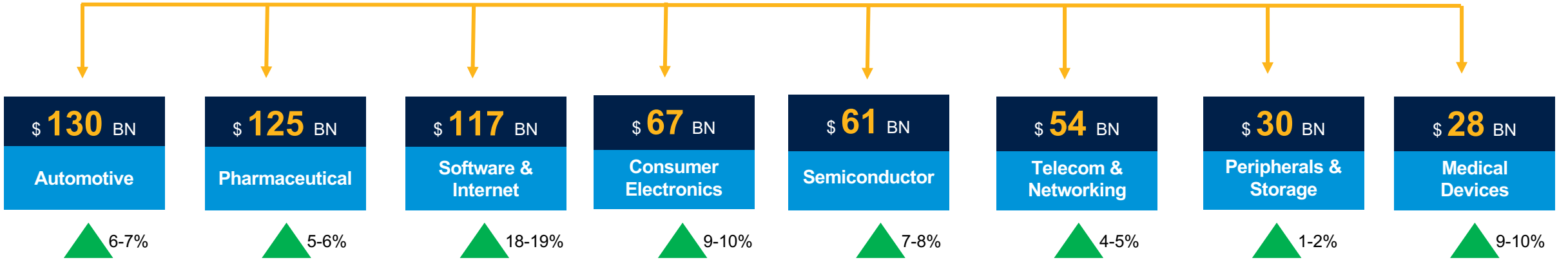
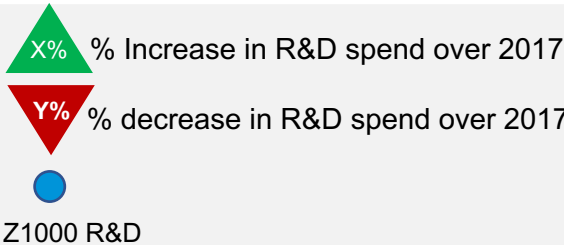


Zinnov has increased its coverage through new verticals such as BFSI, Retail, and Travel & Hospitality, etc. which reflects as increased Corporate ER&D spend

Z1000 organizations

USD **812** Billion

2018



Top R&D Spenders

Volkswagen	14.5 B	Merck & Co.	10.2 B	Amazon	22.6 B	Apple	14.2 B	Intel	13.1 B	Huawei	13.5 B	Dell Technologies	4.3 B	Medtronic	2.2 B
Daimler	9.6 B	Novartis	8.9 B	Alphabet	16.6 B	Samsung Electronics	14.1 B	Qualcomm	5.6 B	Cisco Systems	6.3 B	Canon	2.7 B	Bard	1 B
Toyota Motor	9.5 B	Pfizer.	7.7 B	Microsoft	13 B	Sony	4.1 B	Broadcom	3.3 B	Nokia	5.4 B	Western Digital	2.4 B	Becton Dickinson	1 B
Robert Bosch	8 B	Bristol-Myers Squibb	6.4 B	Facebook	7.7 B	Panasonic	4.1 B	TSMC	2.5 B	Ericsson	4.4 B	Lenovo	1.2 B	Boston Scientific	1 B
Ford Motor	8 B	GlaxoSmithKline	6.1 B	Oracle	6.2 B	Fuji Film	1.5 B	Micron Technology	2.1 B	NTT	1.9 B	Seagate	1 B	Thermo Fisher Scientific	0.9 B

Z1000 organizations

USD **812** Billion

2018

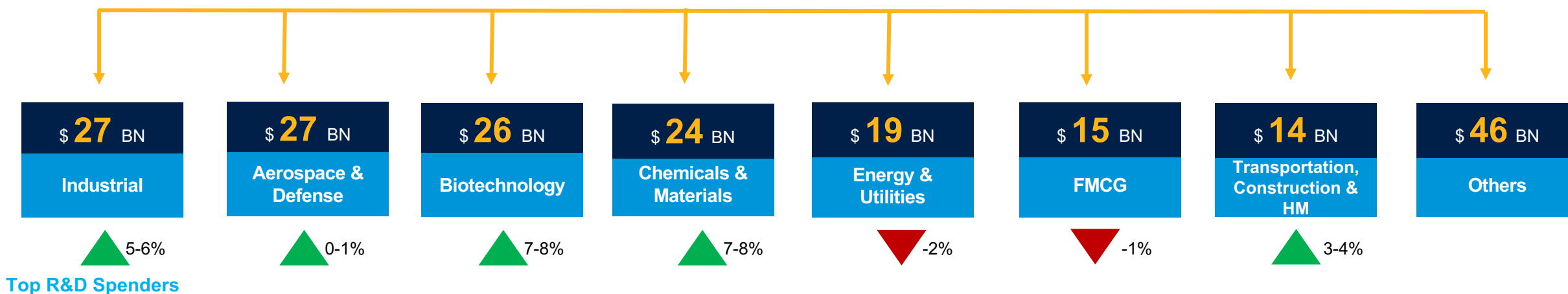
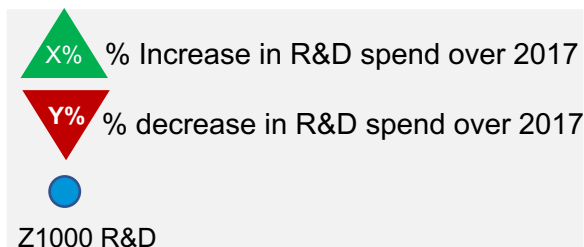


ABB	1.3 B	Boeing	3.2 B	Celgene	5.9 B	Dupont	2.1 B	Petrochina	1.8 B	Procter & Gamble	1.8 B	Caterpillar	1.9 B
Sumitomo Electric	1.1 B	Airbus	3.1 B	Gilead Sciences	3.7 B	BASF	2.1 B	SNAM	1.1 B	Nestle	1.7 B	China Railway Construction	1.5 B
TDK	0.9 B	BAE Systems	2.1 B	Amgen	3.5 B	3M	1.8 B	ExxonMobil	1.1 B	Unilever	1 B	CRRC	1.5 B
Murata Manufacturing	0.8 B	Leonardo-Finmeccanica	1.7 B	Biogen	2.2 B	Dow Chemical	1.6 B	Sinopec	0.9 B	L'oreal	1 B	Deere & Company	1.4 B
Toyota Industries	0.7 B	Safran	1.5 B	Monsanto	1.6 B	Sumitomo Chemical	1.5 B	Royal Dutch	0.9 B	Pepsico	0.7 B	CNH	1 B

Traditional Products

Industries

Digital Products

Early adopters to drive digitization

Car Sales

Automotive

Shared Mobility

UBER

Autonomous and EVs

TESLA

- Ride sharing company UBER has a higher valuation than GM and Ford
- Tesla focuses on building autonomous EVs

Equipment

Industrial

Industrial Analytics

Honeywell

Platform

ptc

- Honeywell built its Sentience platform and provides analytics services to its clients
- PTC acquired Thoughtworks to provide platform services to its clients

Oil Production

Energy

Predictive maintenance

GE

Operational efficiency

KUKA

- Taleris uses sensors to monitor aircraft components & systems and provide predictive maintenance services for customers
- KUKA produces one unpainted vehicle body every 77 seconds

Medical Devices
Medicines

Healthcare

On-Demand

:practo

Connected Devices

CareFusion

- Practo Became world's largest health appointment booking platform in 2015
- CareFusion is shifting to patient centric model

Telecom Equipment
Network Infra

Telecom

Software defined networks

WhatsApp

Over the top services

skype

- Over 1 Bn active users with 42 Bn+ texts sent daily
- The industry expects to lose combined \$386 Bn between 2012 and 2018 to OTT players such as Skype

On-premise applications

Enterprise
Software

Software as a service

salesforce

Mobility

#slack

- Salesforce.com transformed the CRM business by providing cloud based services
- Salesforce.com has captured 20% of the market share
- Slack is valued at \$5 billion and transformed enterprise collaboration

Embedded
Design

Consumer

Product personalization

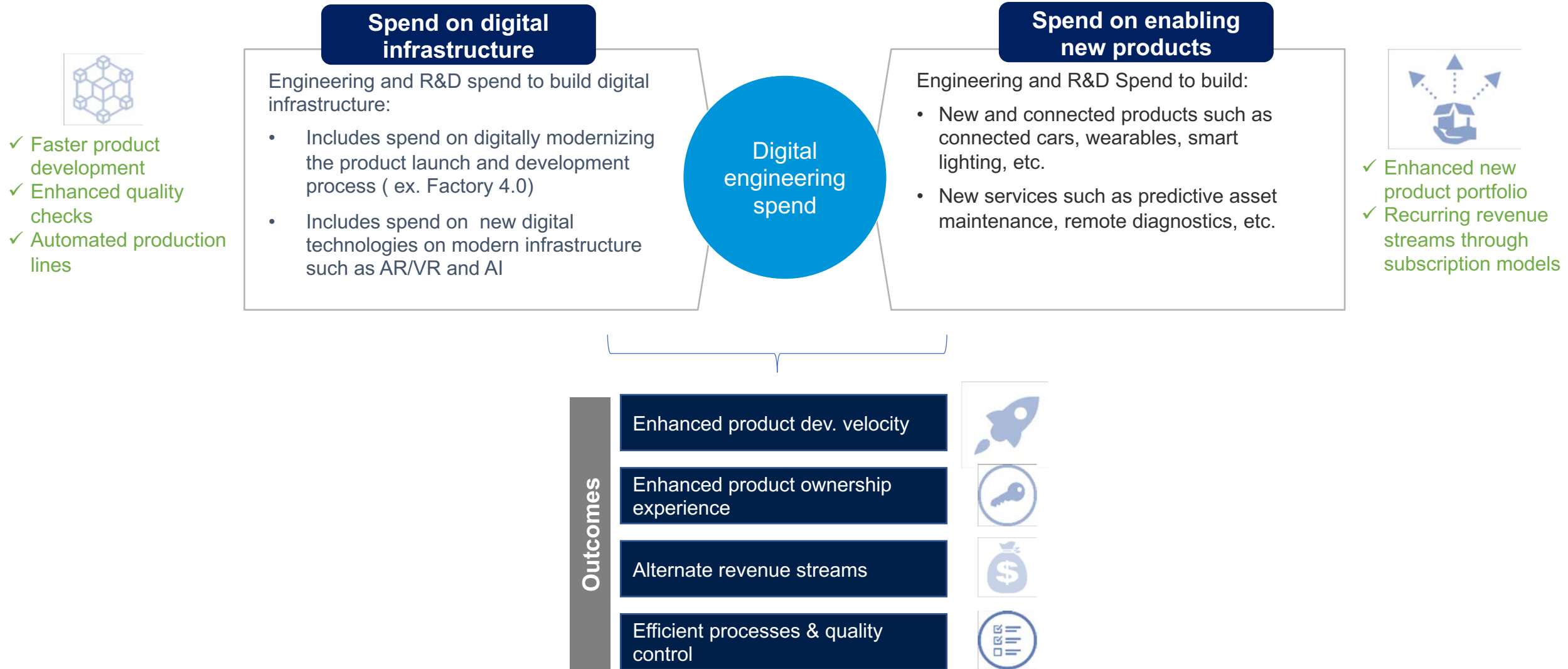
Spotify

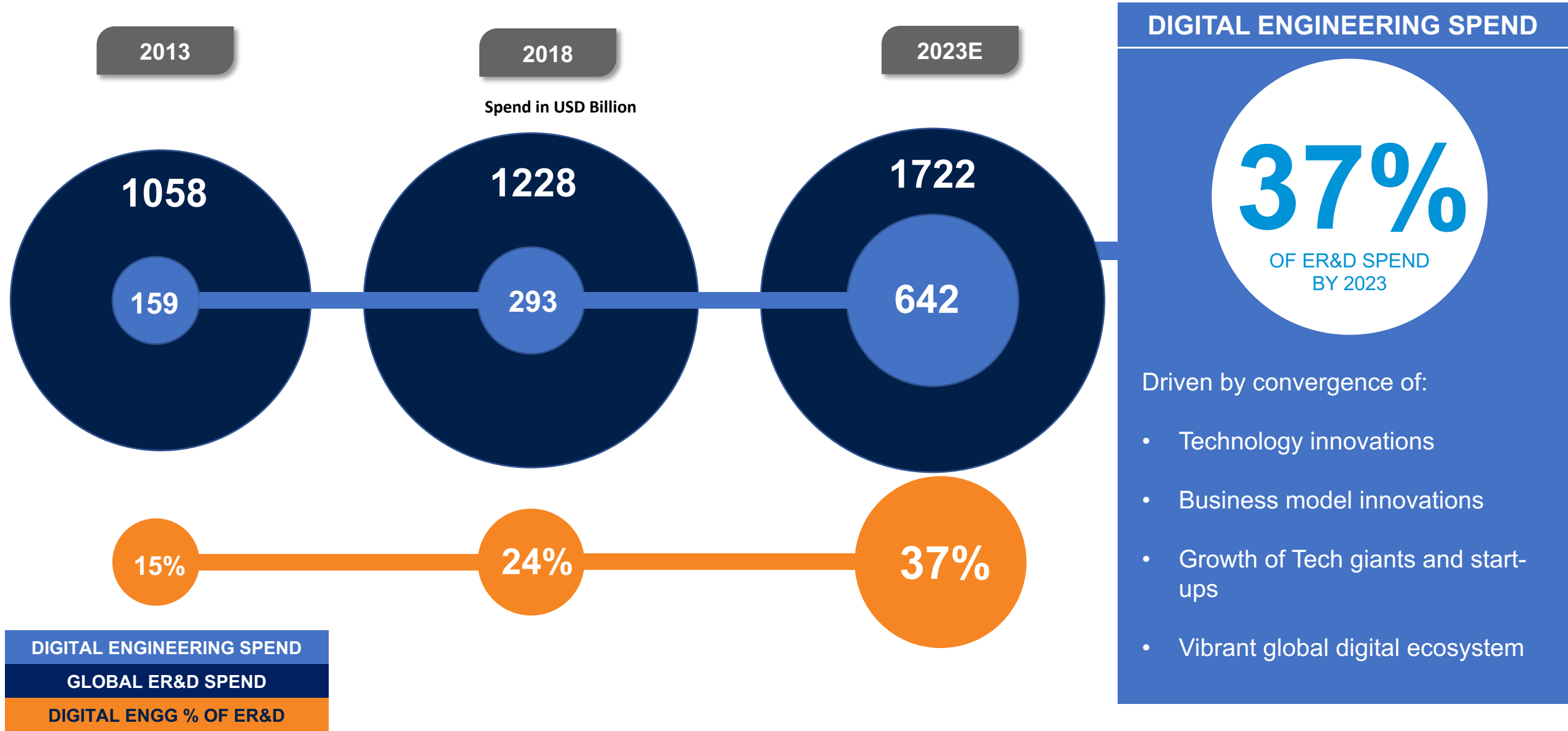
Data driven product engineering

facebook

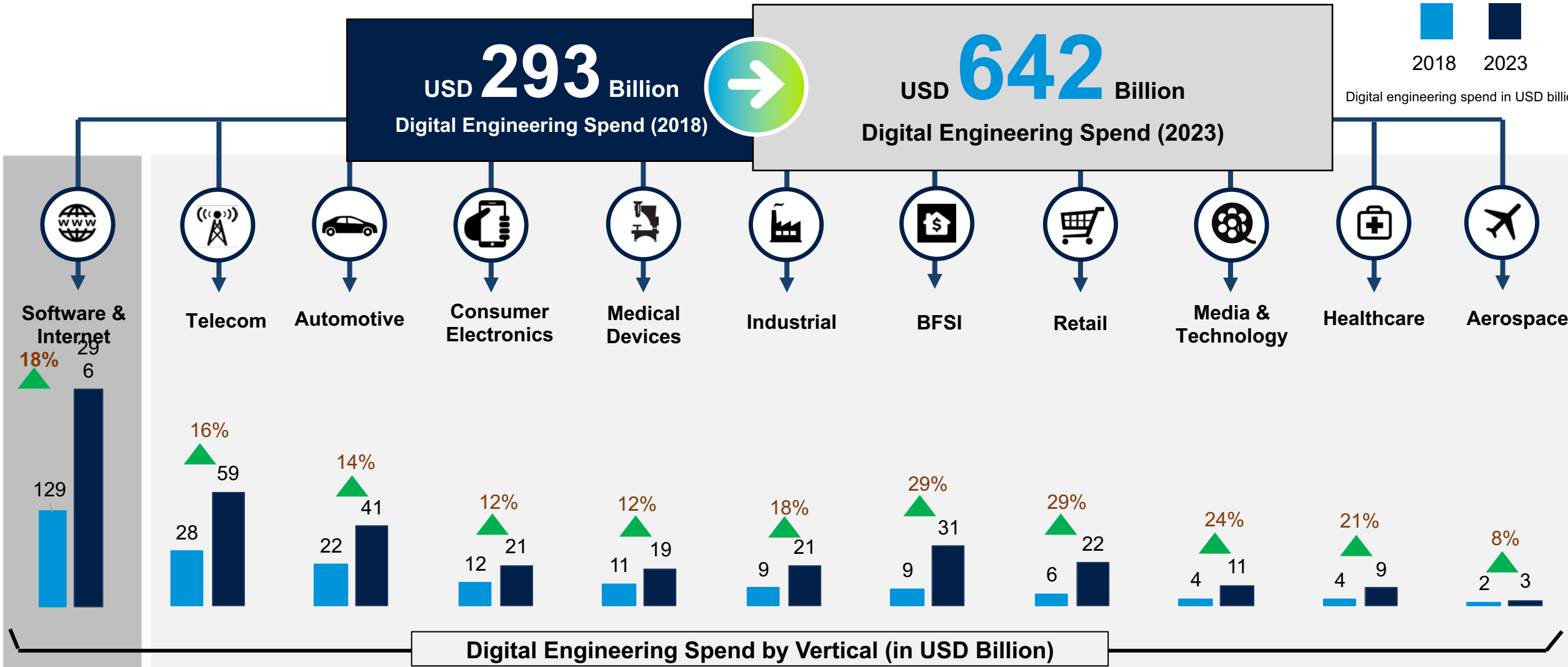
- Spotify quadrupled its paying user base (40 Mn+) in just 2 years
- Facebook uses consumer data to define product roadmaps
- 1.2B+ people use Facebook

Top R&D spenders are investing in digital engineering themes to drive velocity in manufacturing processes and new product development while also enabling alternate revenue streams

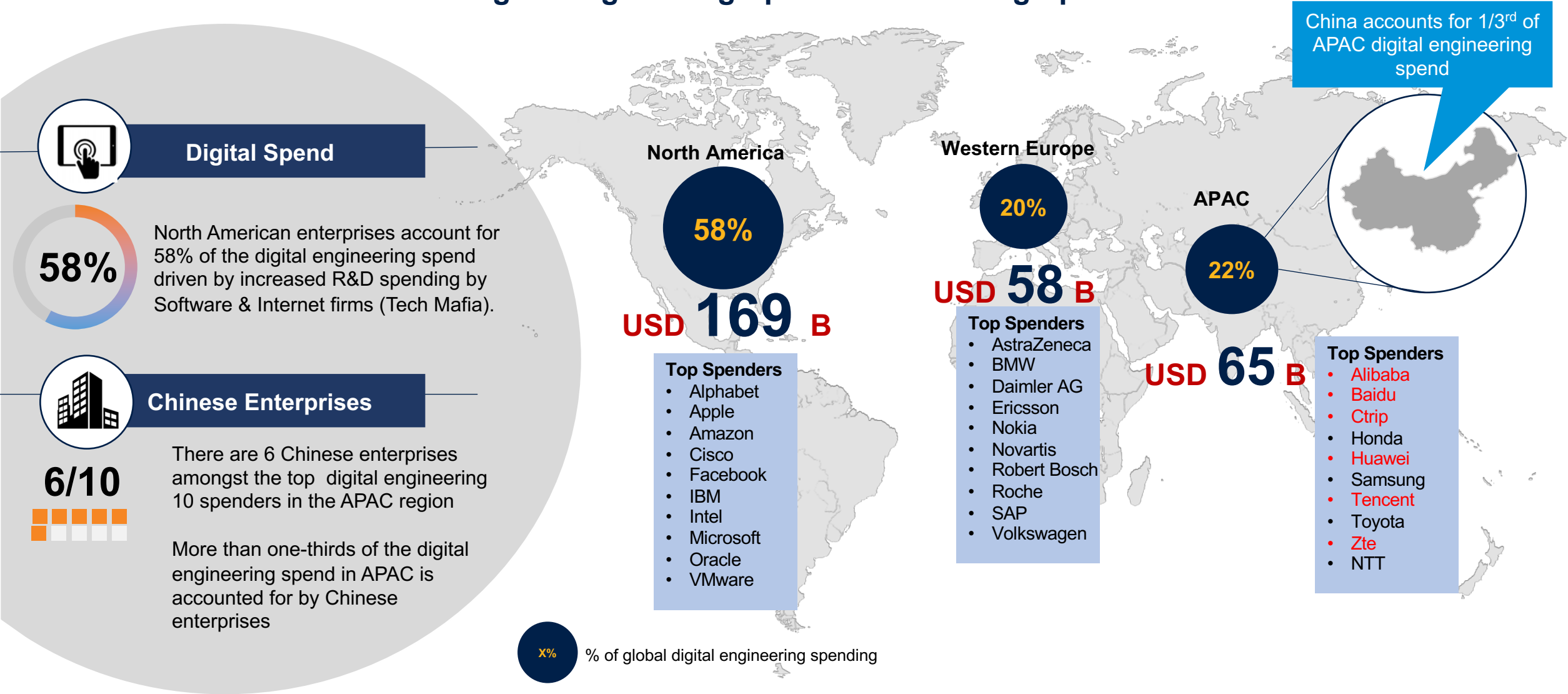




Digital Engineering Spend Across Industries

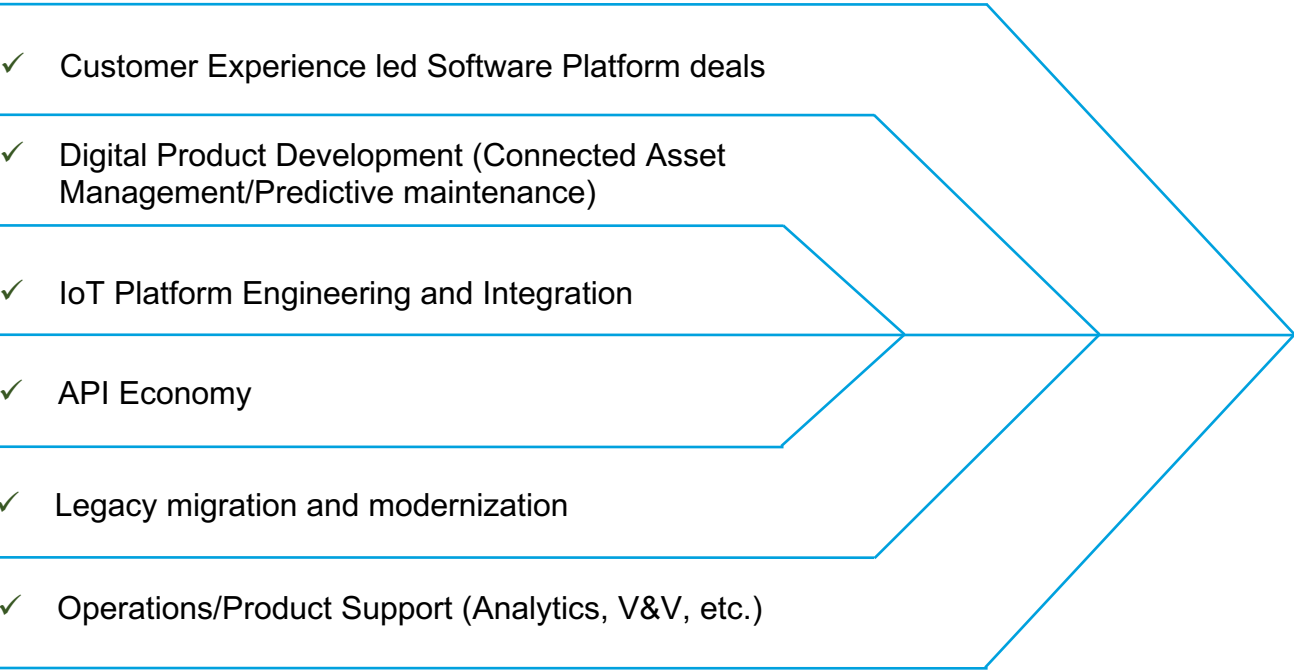


Digital Engineering Spend Across Geographies

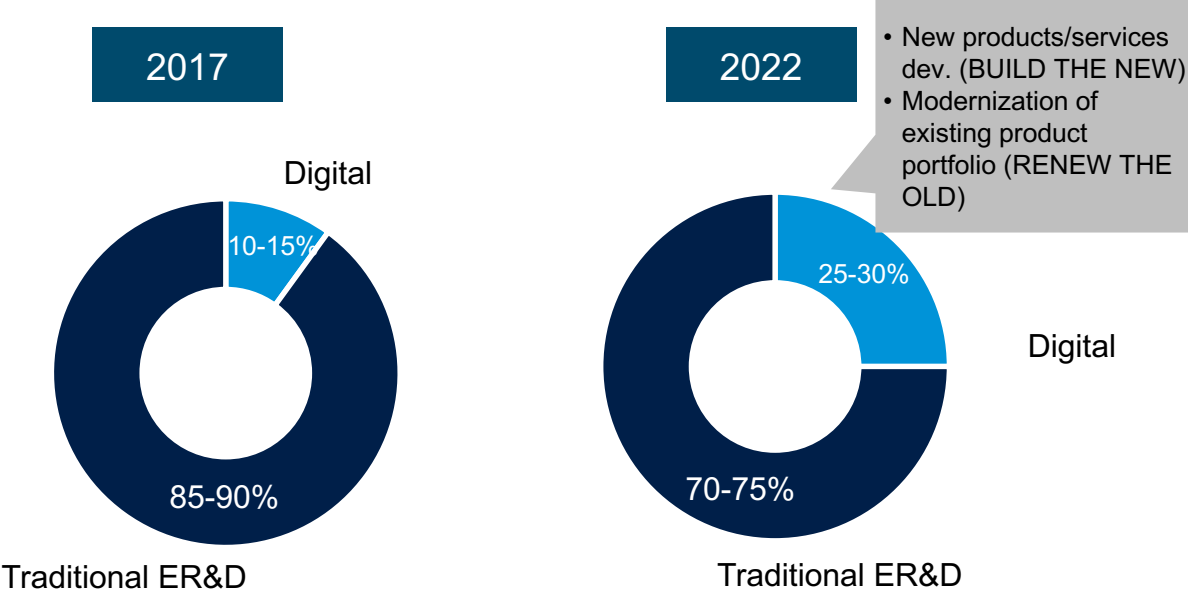


		Digital Engineering spend	
		Modernization of product development process “RENEW THE OLD”	New/Connected Products and Services “BUILD THE NEW”
	Automotive	<ul style="list-style-type: none"> • Robotic automation in plants • 3D printing for components • Digital PLM 	<ul style="list-style-type: none"> • Autonomous vehicles • Connected vehicles • ADAS
	Consumer electronics	<ul style="list-style-type: none"> • Digital modernization of product launch/development process • Digital tools/feedback for design 	<ul style="list-style-type: none"> • Connected & smart devices • Platformization
	Industrial	<ul style="list-style-type: none"> • Factory 4.0 and plant automation • Digital Twins • 3D Printing 	<ul style="list-style-type: none"> • Predictive asset maintenance • Connected equipment
	Medical devices & HLS	<ul style="list-style-type: none"> • Drug manufacturing and plant automation • Robotic surgery 	<ul style="list-style-type: none"> • Wearables for monitoring • Preventive healthcare
	Software & Internet	<ul style="list-style-type: none"> • Modernization of product portfolio (Cloud engineering) • Agile and DevOps engineering 	<ul style="list-style-type: none"> • New products and platform (SaaS, PaaS) • IoT platforms • AI and ML software • DevOps platforms
	Telecom & Networking	<ul style="list-style-type: none"> • SDN • NFV • RPA 	<ul style="list-style-type: none"> • Digital VAS • Data monetization

Drivers for digital engineering led deals



Share of digital engineering deals



Large R&D spenders are leveraging the ER&D service provider community for transformation. ER&D Spenders have opportunities across:

- “Manage the Old” – Product carveouts, IP Partnerships, etc.
- “Renew the Old” – Modernization initiatives
- “Build the New” – Enabling new products and services



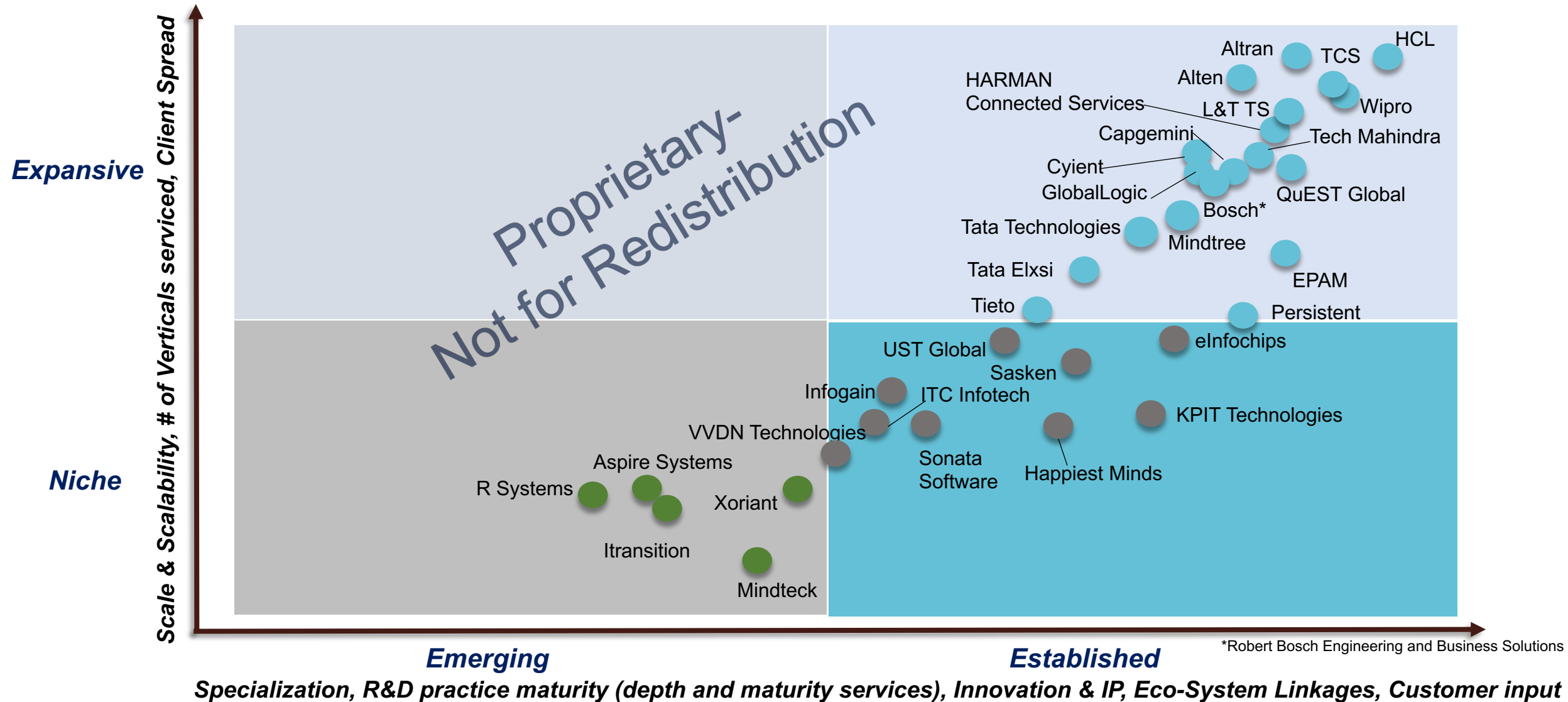
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Zinnov Zones ER&D Service provider Ratings 2018

- **Overall ER&D Ratings**
- Horizontal Ratings
 - ❖ Design & Simulation engineering
 - ❖ AI and ML engineering
 - ❖ User experience engineering
 - ❖ Platform engineering
 - ❖ Quality Assurance engineering
- Vertical specific Ratings
 - ❖ Aerospace
 - ❖ Automotive
 - ❖ Computer Peripherals and Storage
 - ❖ Construction & Heavy Machinery
 - ❖ Consumer Electronics
 - ❖ Consumer Software
 - ❖ Enterprise Software
 - ❖ Energy & Utilities
 - ❖ Industrial Automation
 - ❖ Medical devices
 - ❖ Semiconductor
 - ❖ Telecommunication
 - ❖ Transport





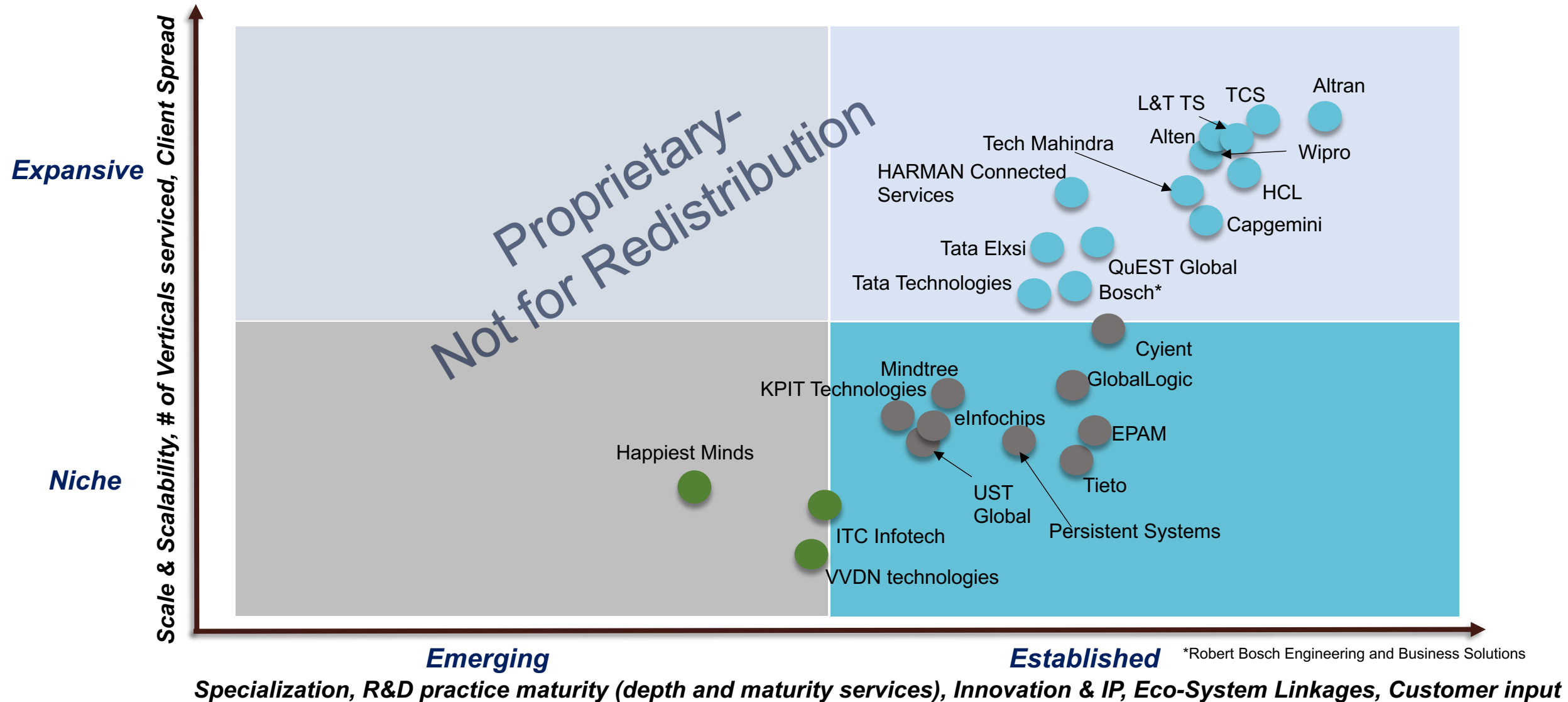
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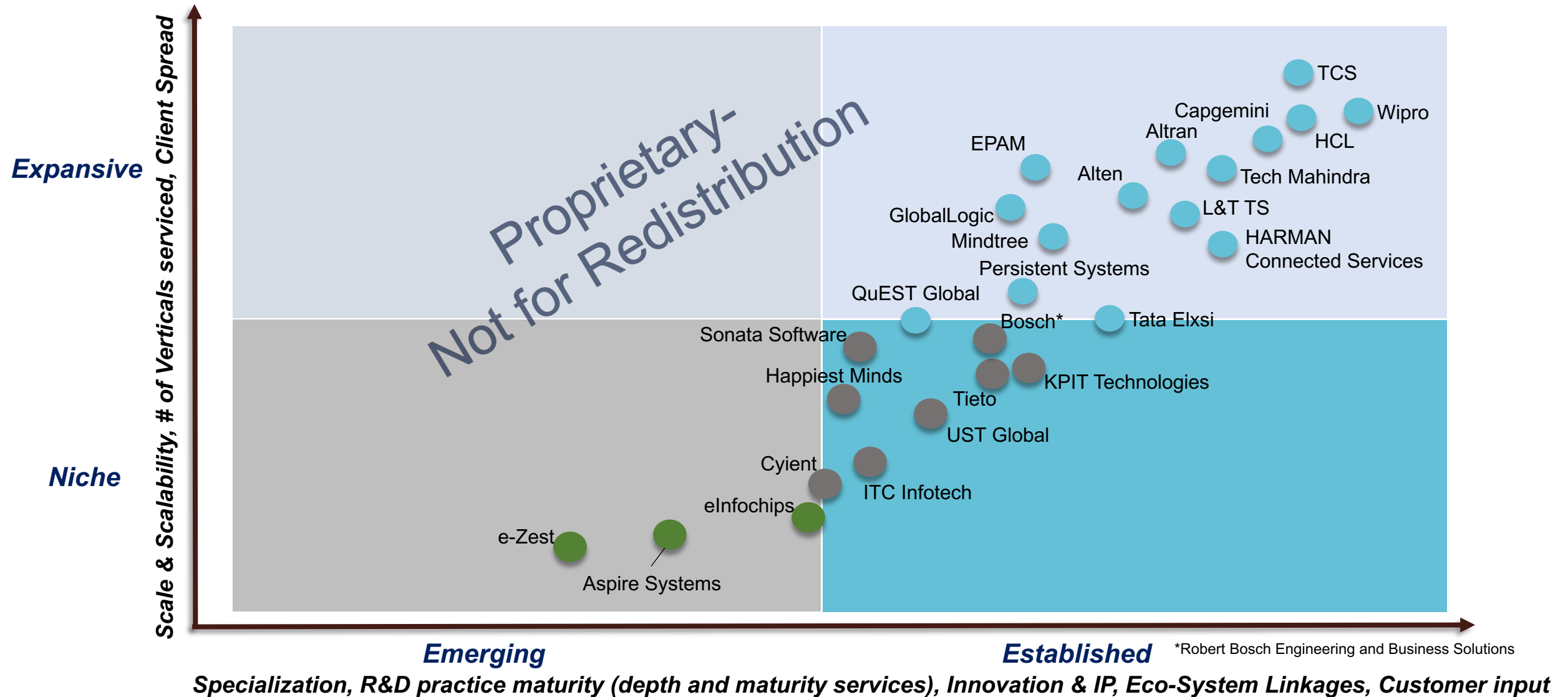
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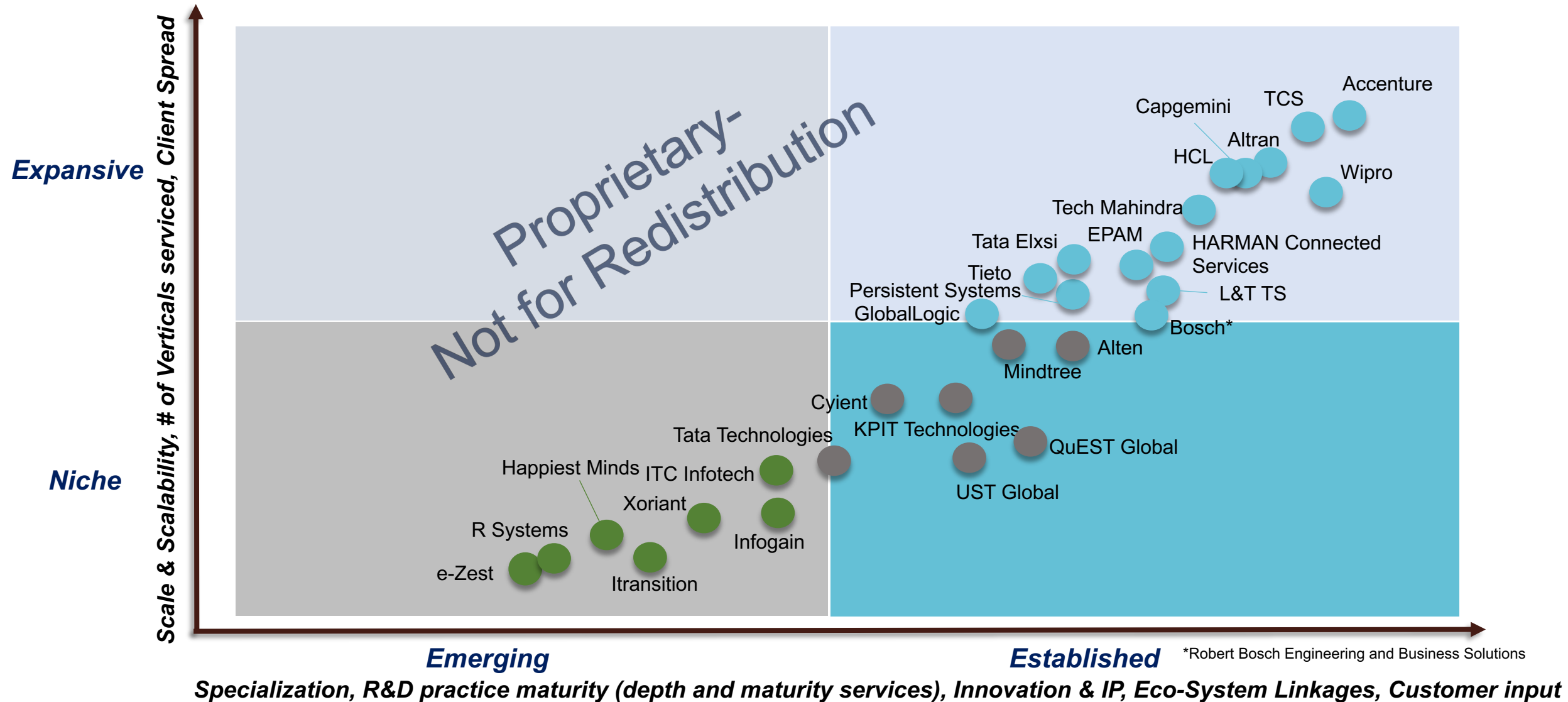
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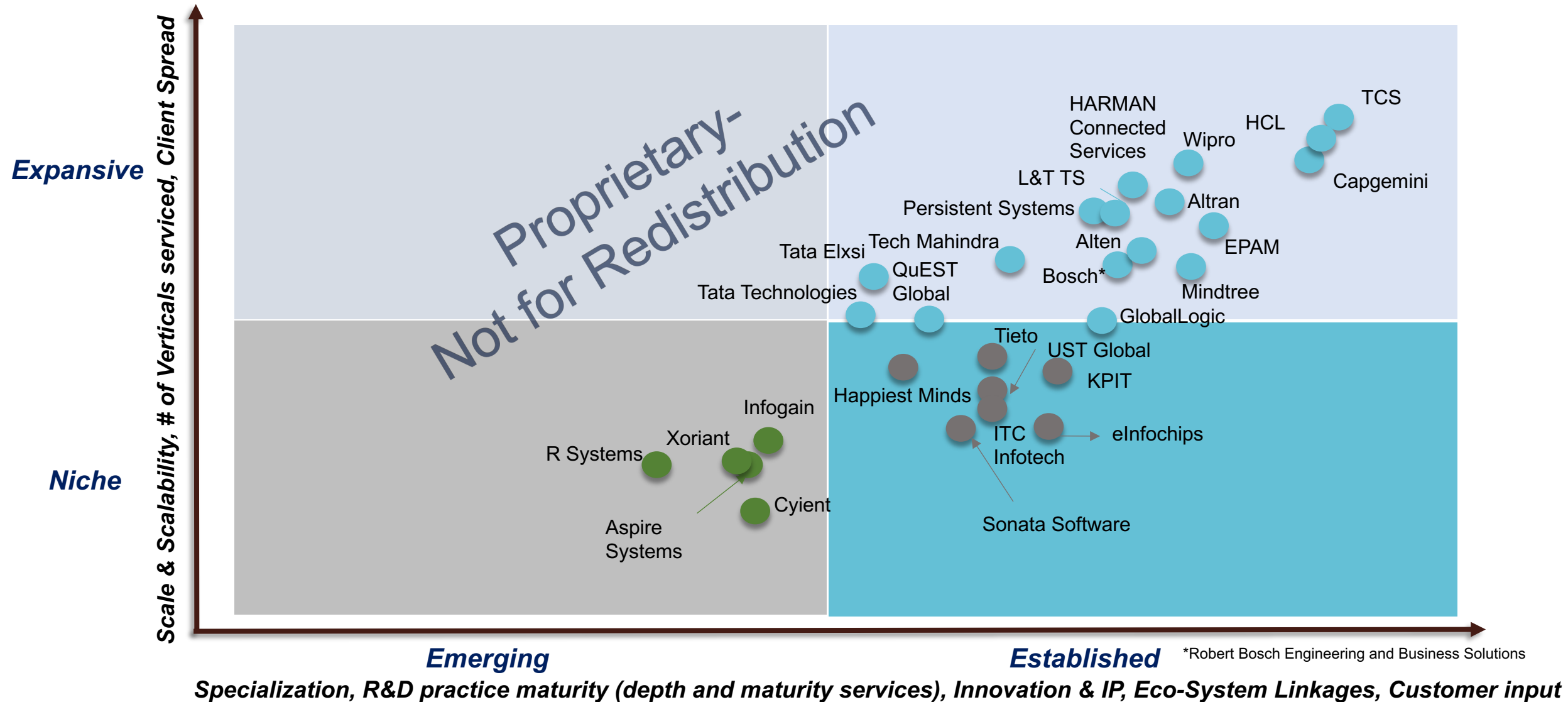
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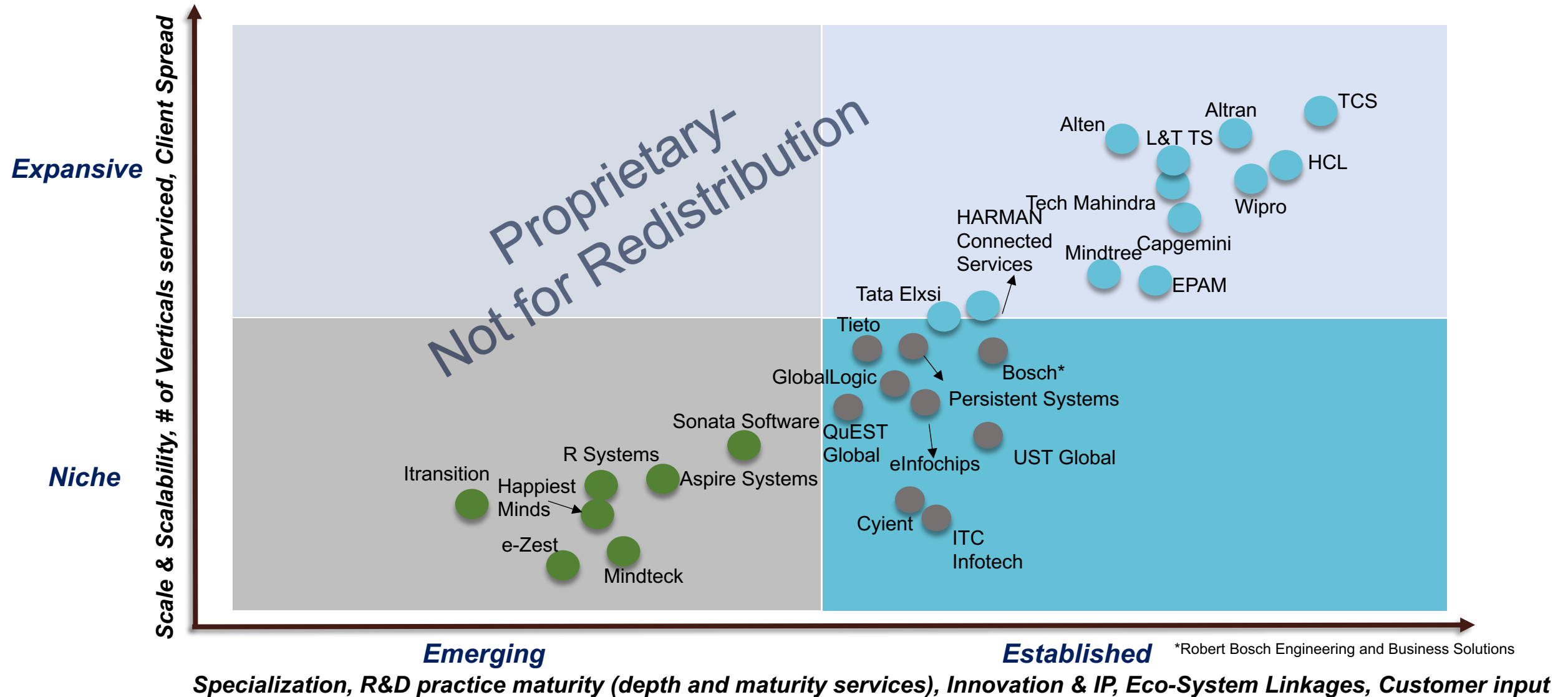






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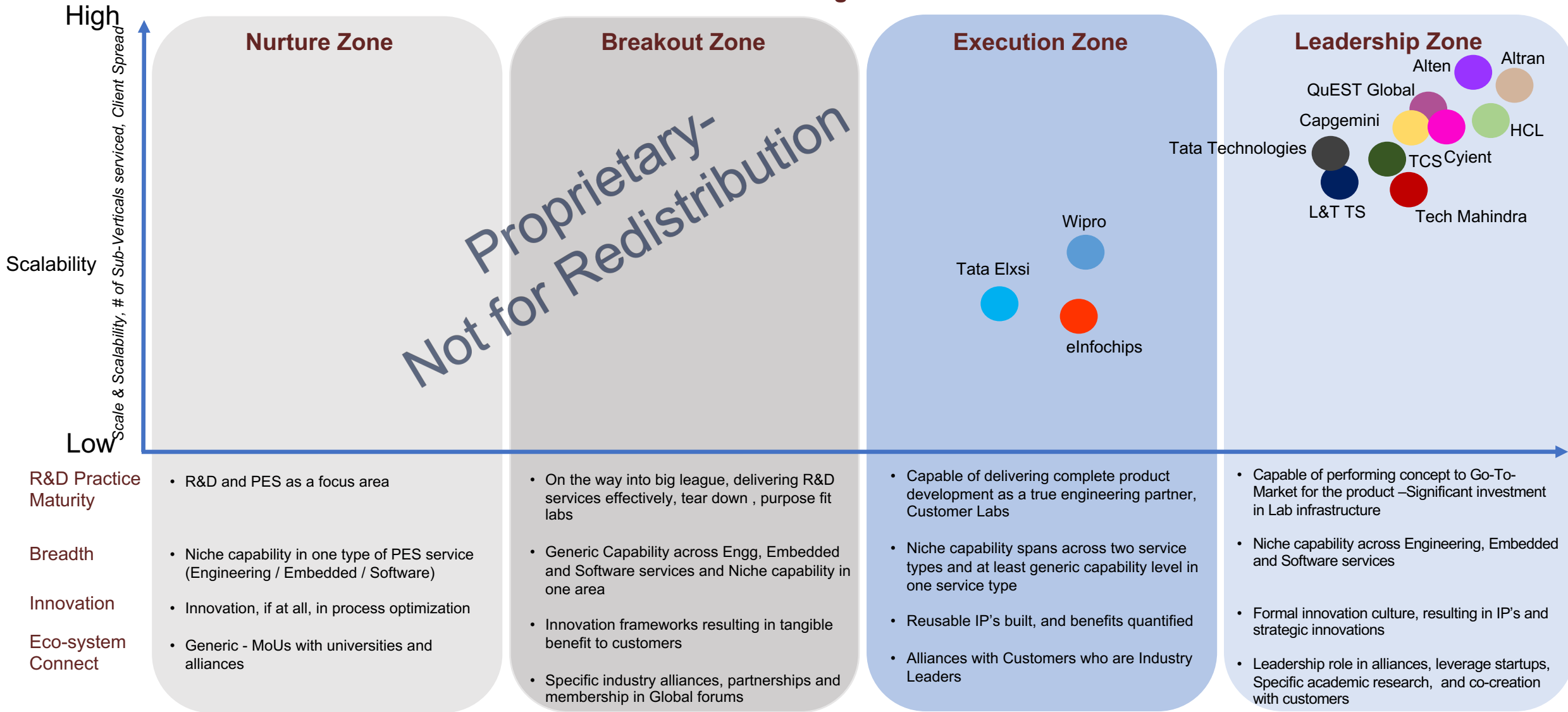
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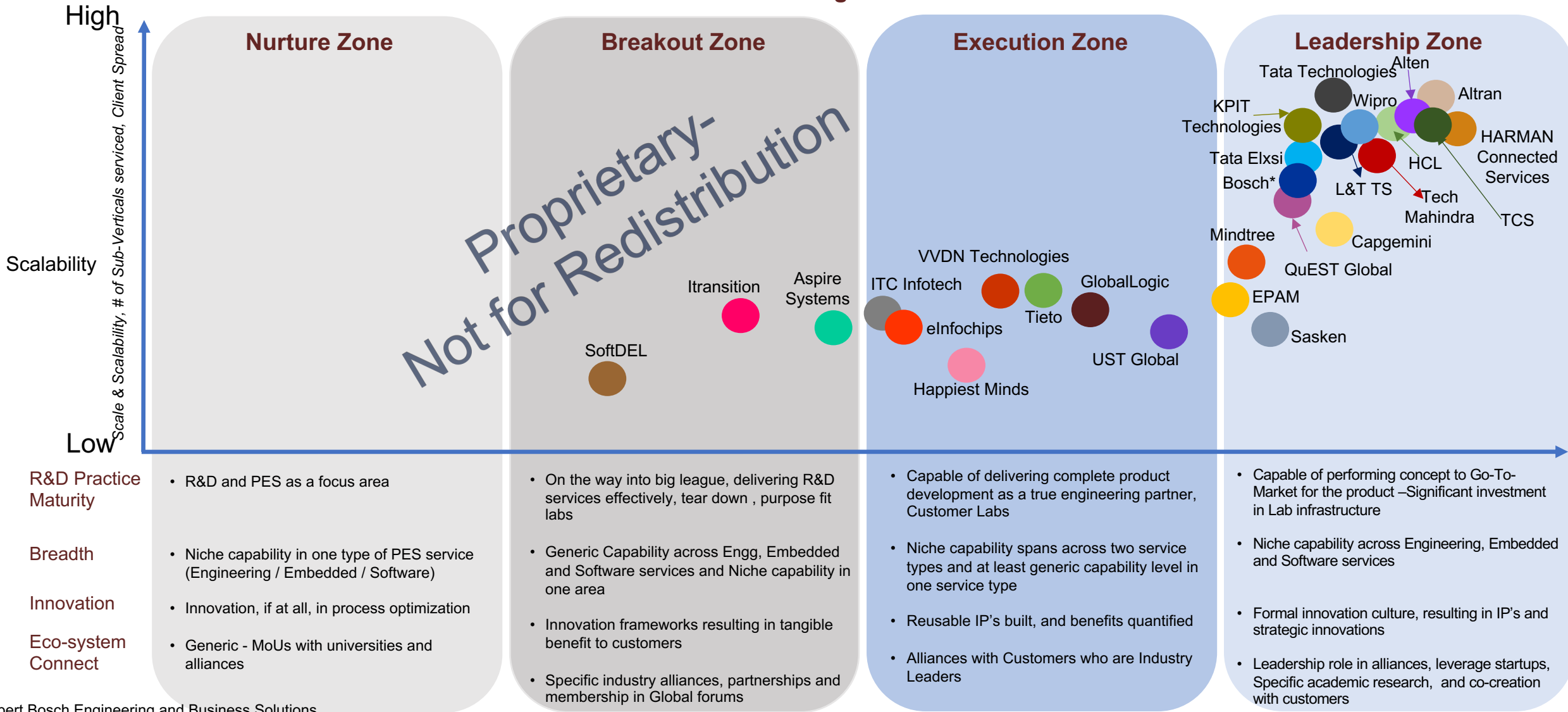
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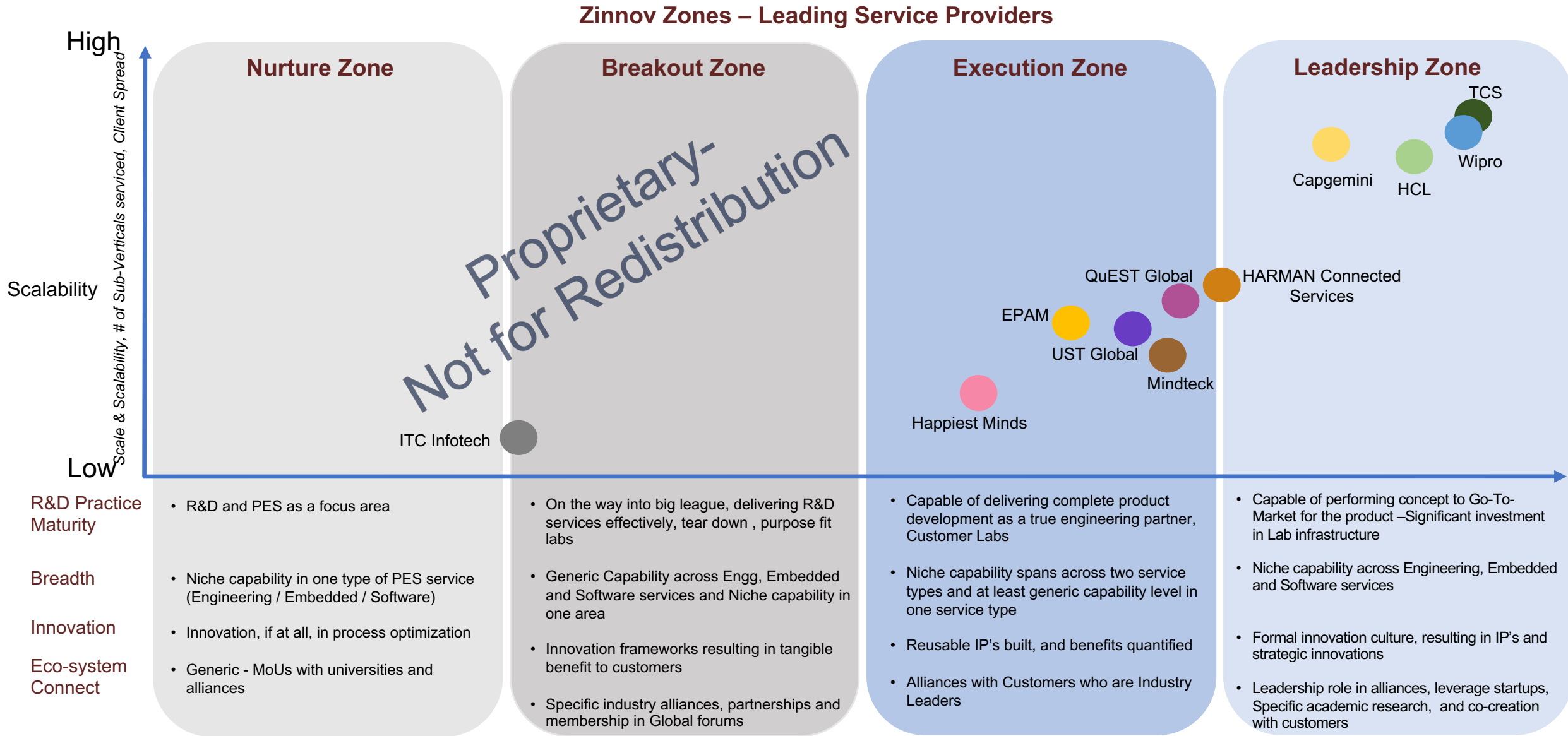
Zinnov Zones – Leading Service Providers

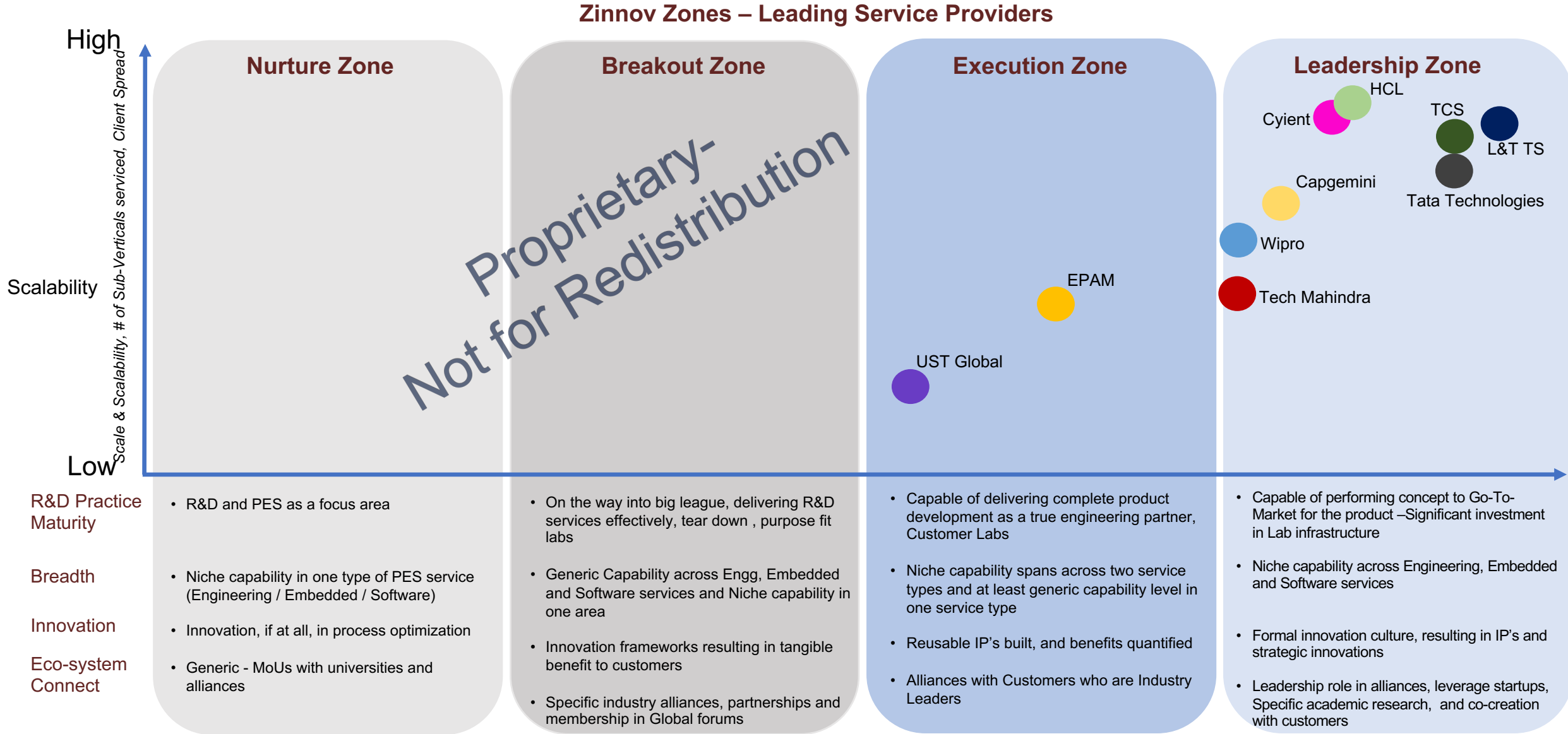


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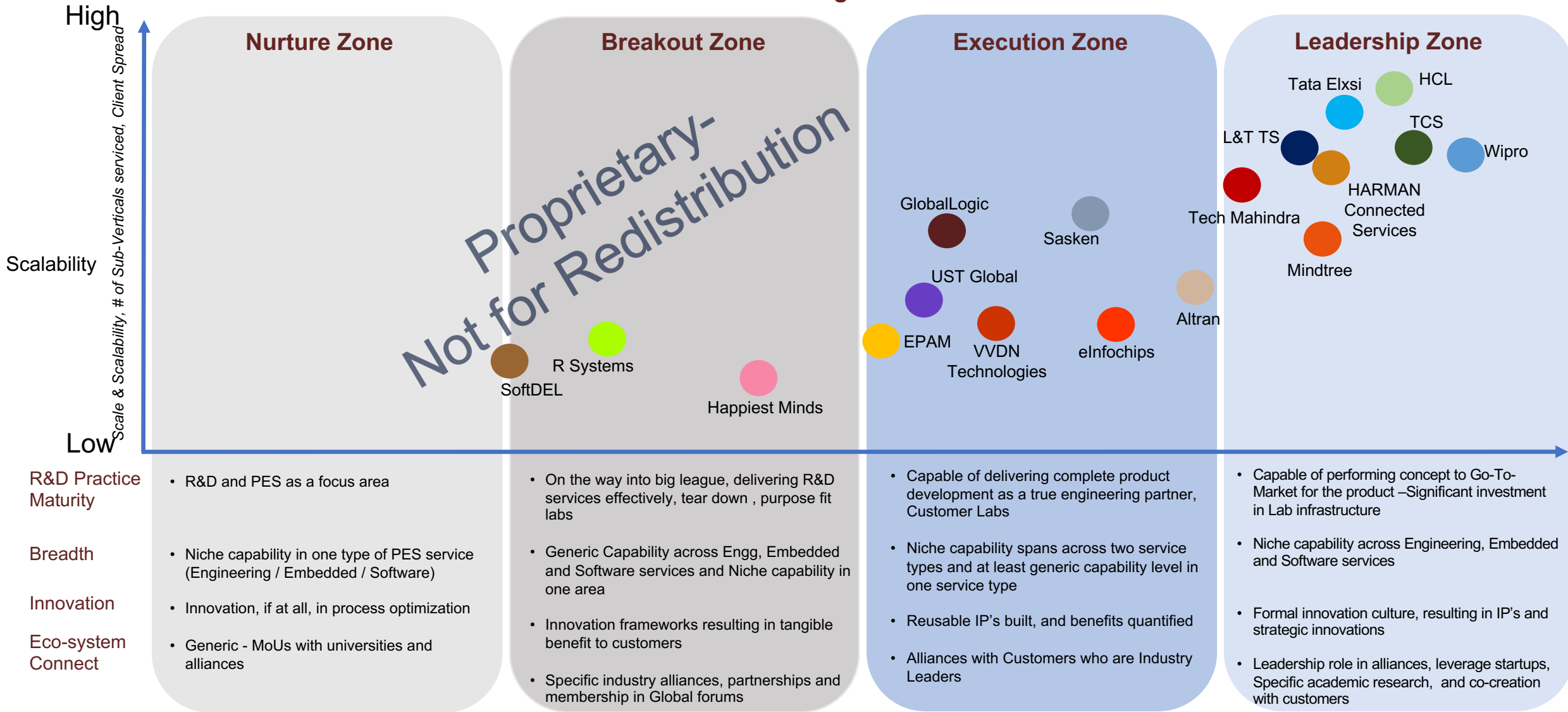


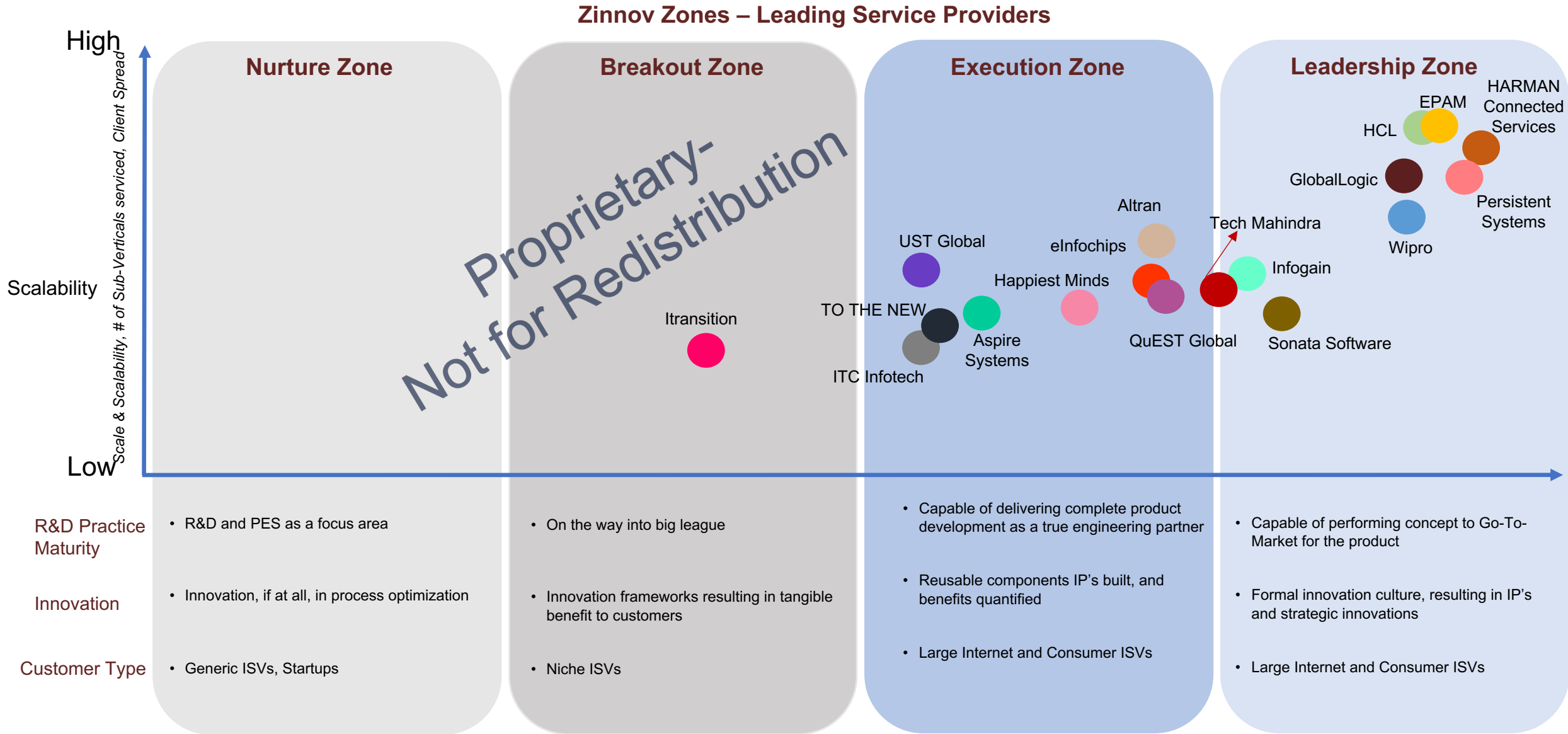
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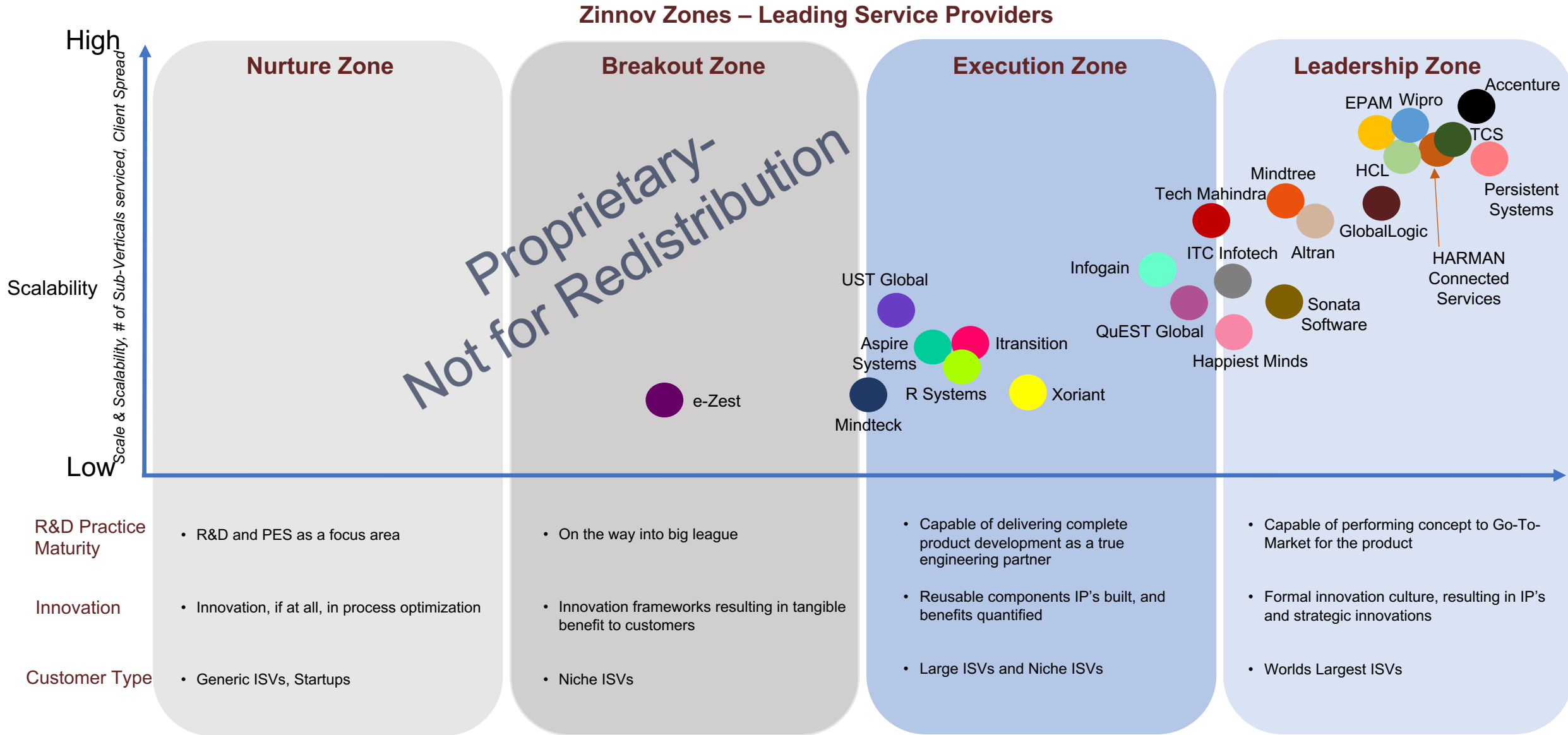


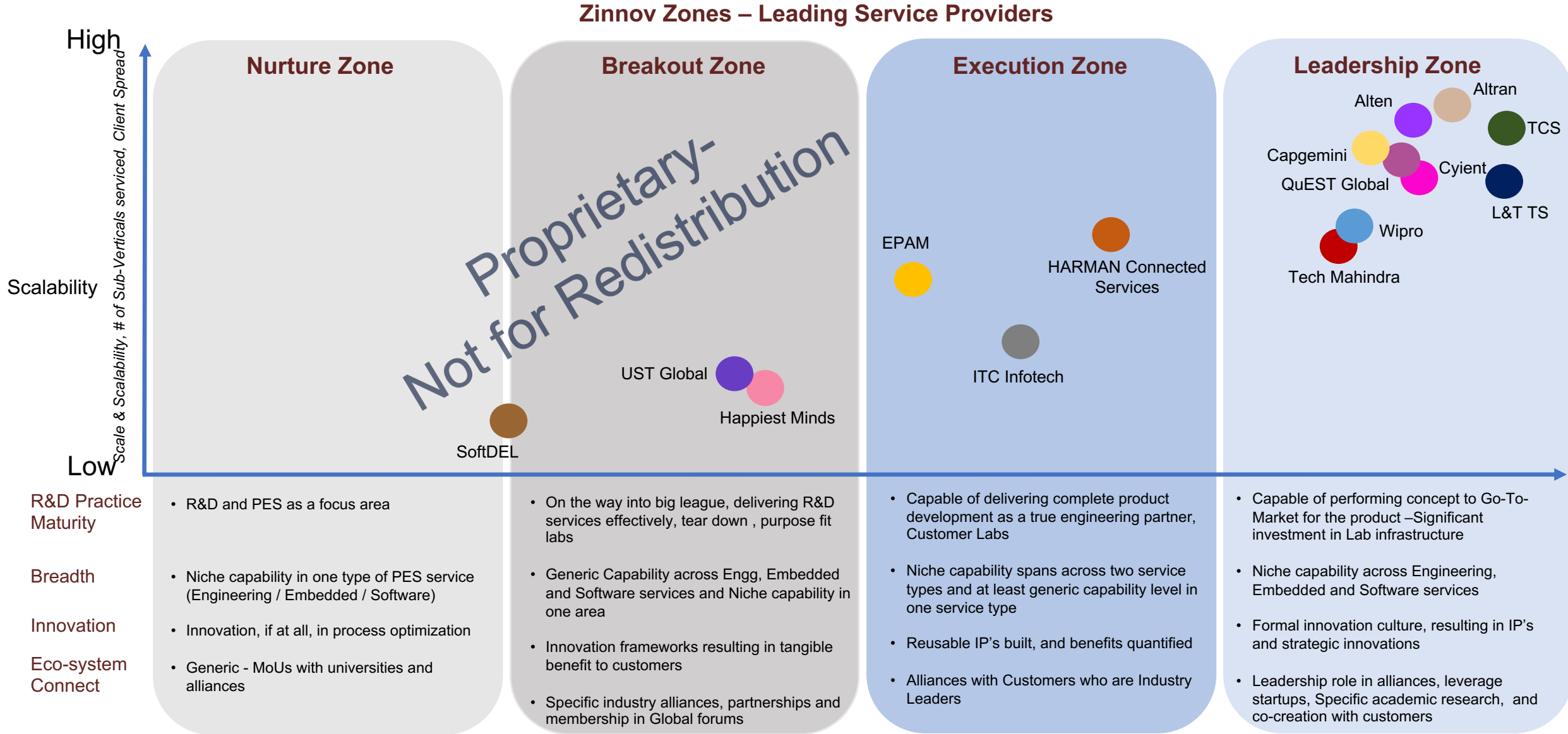


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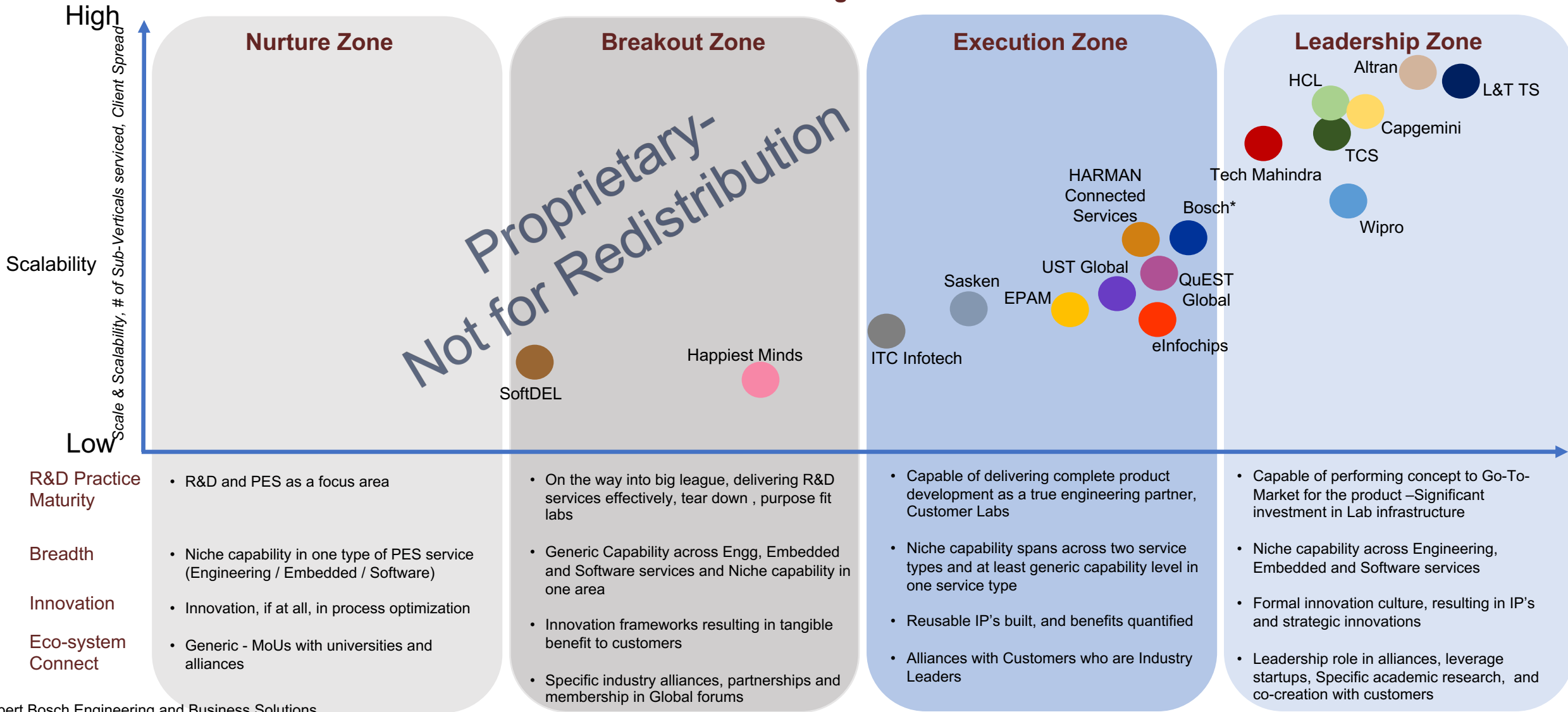




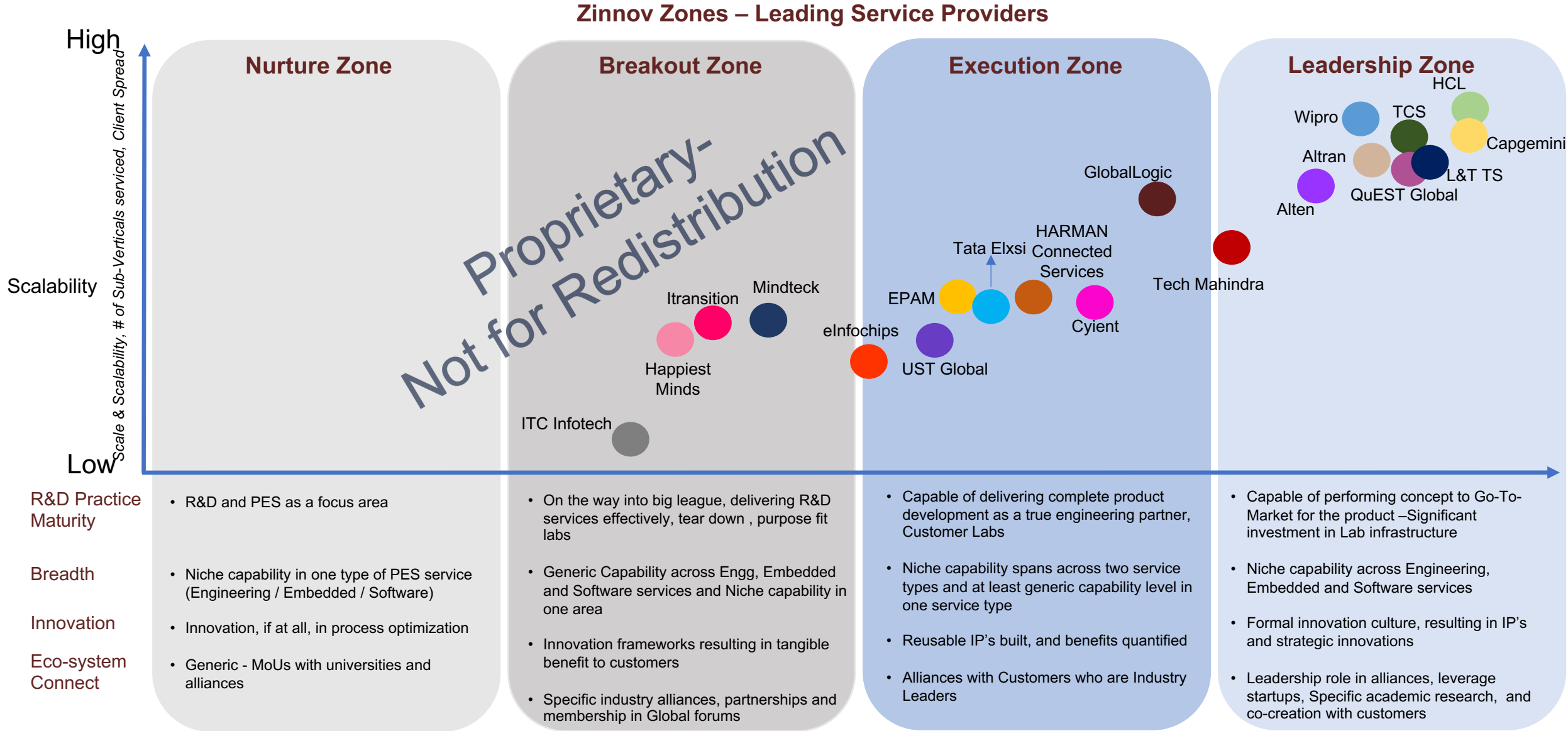




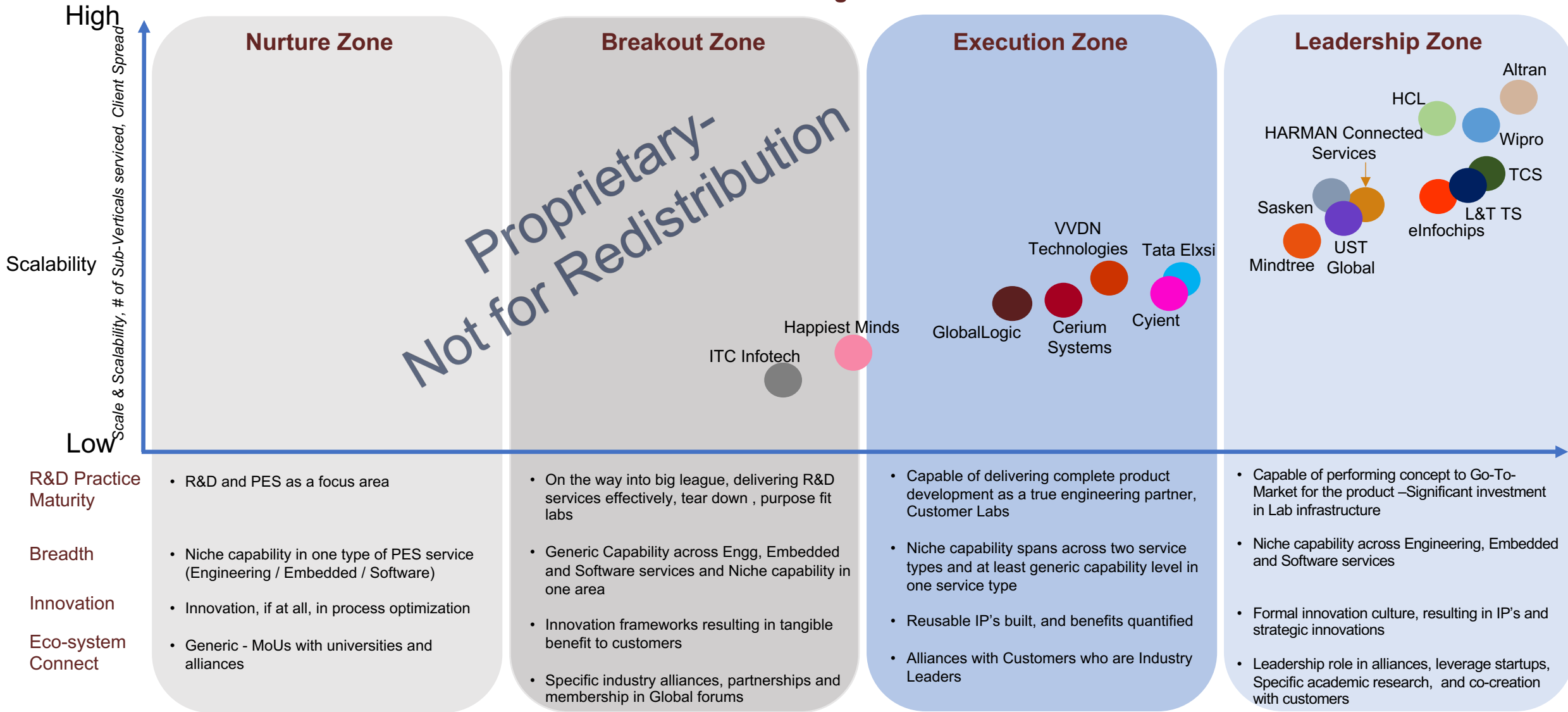
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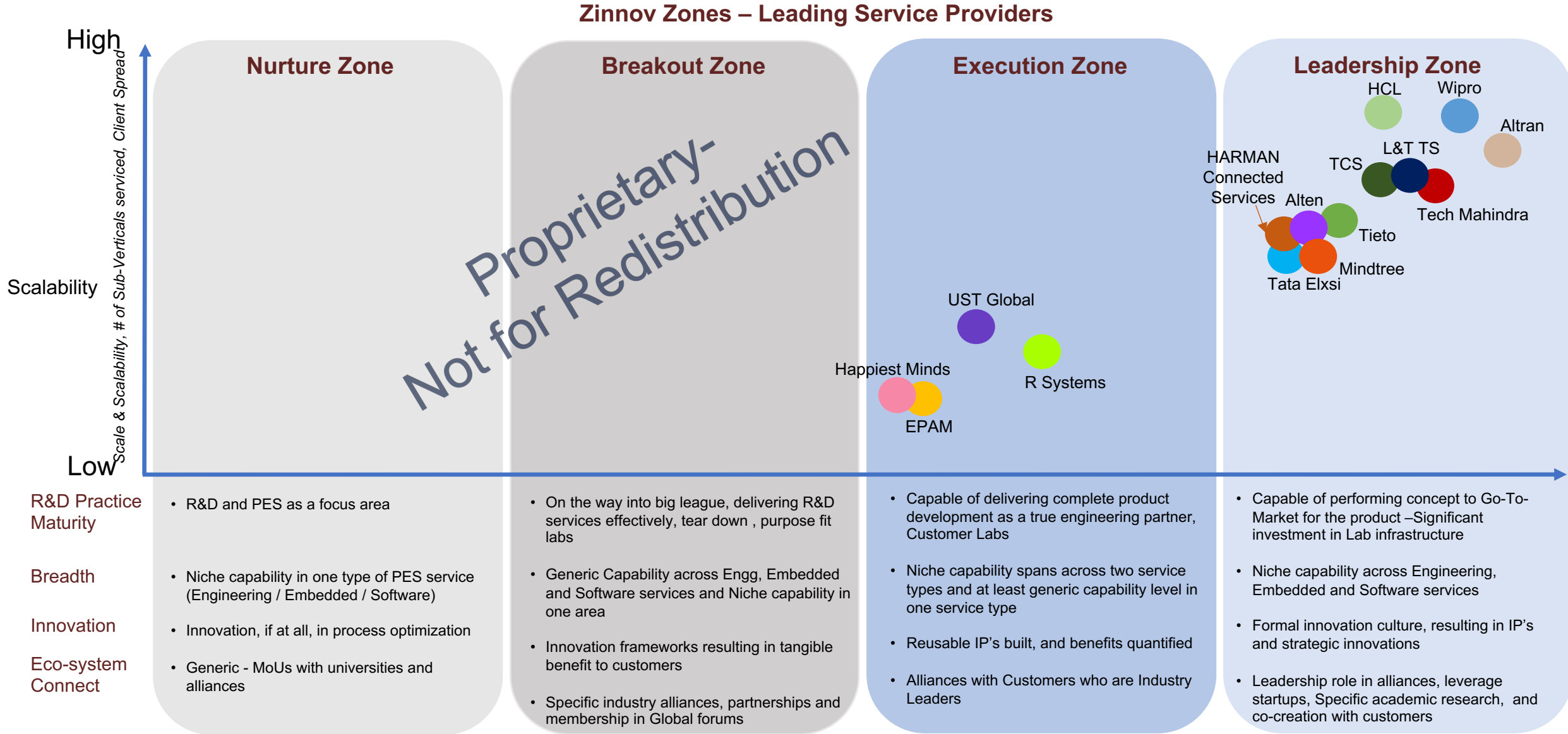


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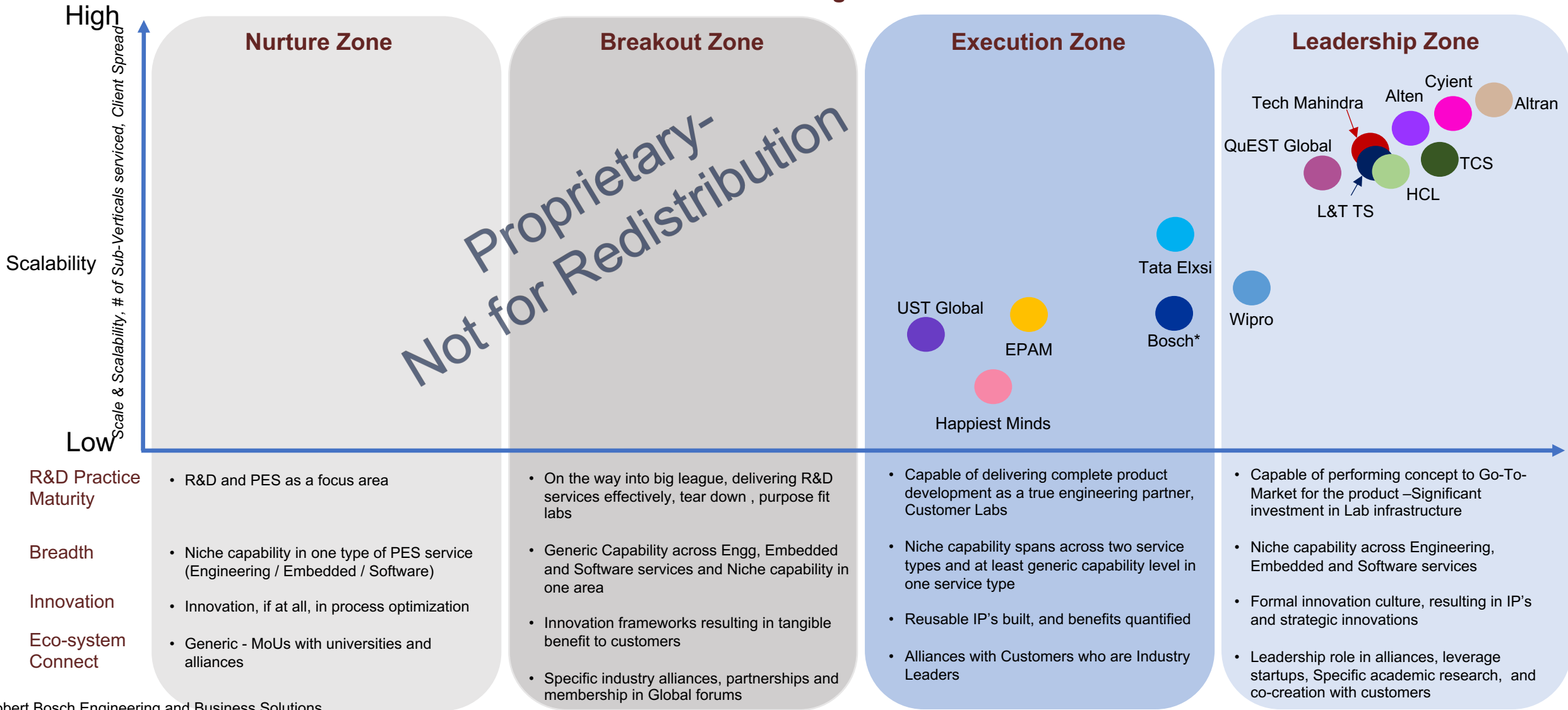


Zinnov Zones – Leading Service Providers





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