

# Zinnov Zones 2017

## Product Engineering Services

An Analyst Point of View for Mindtree  
April 2018

The Zinnov logo consists of the word "zinnov" in a lowercase, sans-serif font, followed by a blue square containing a white, stylized wave or 'Z' shape.



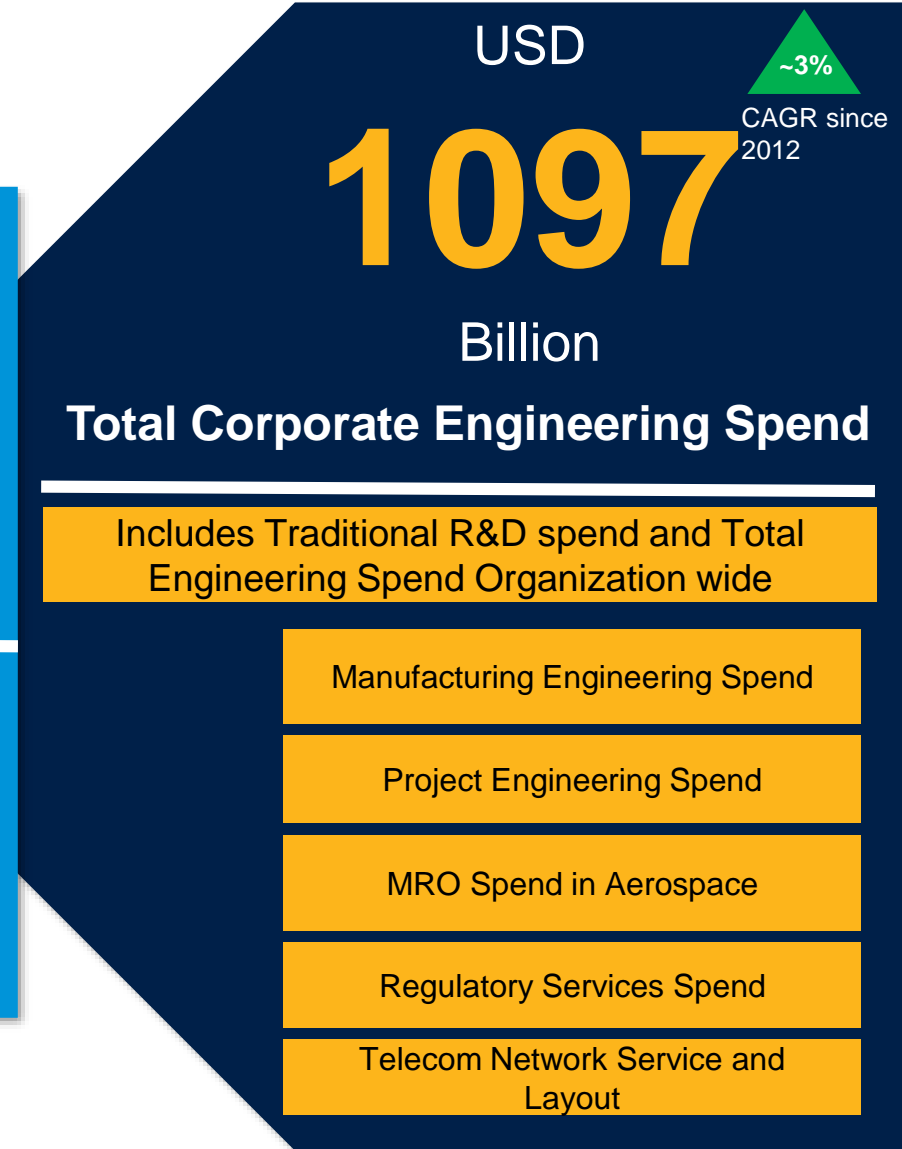
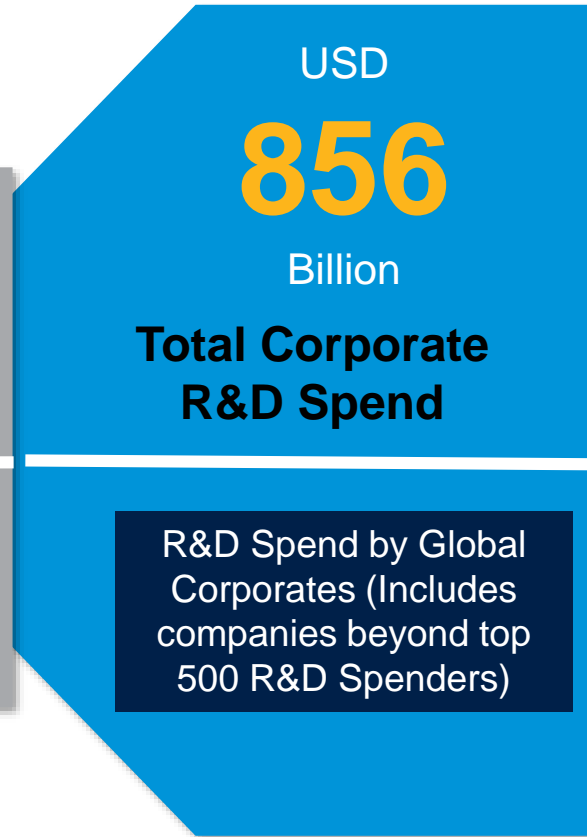
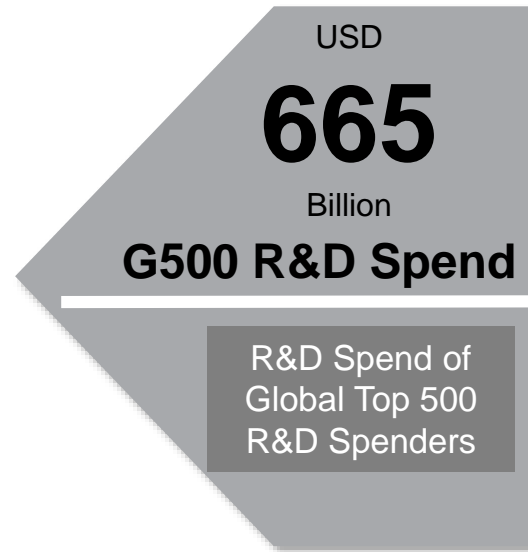
Global Engineering R&D Landscape

Mindtree profile – PES 2017

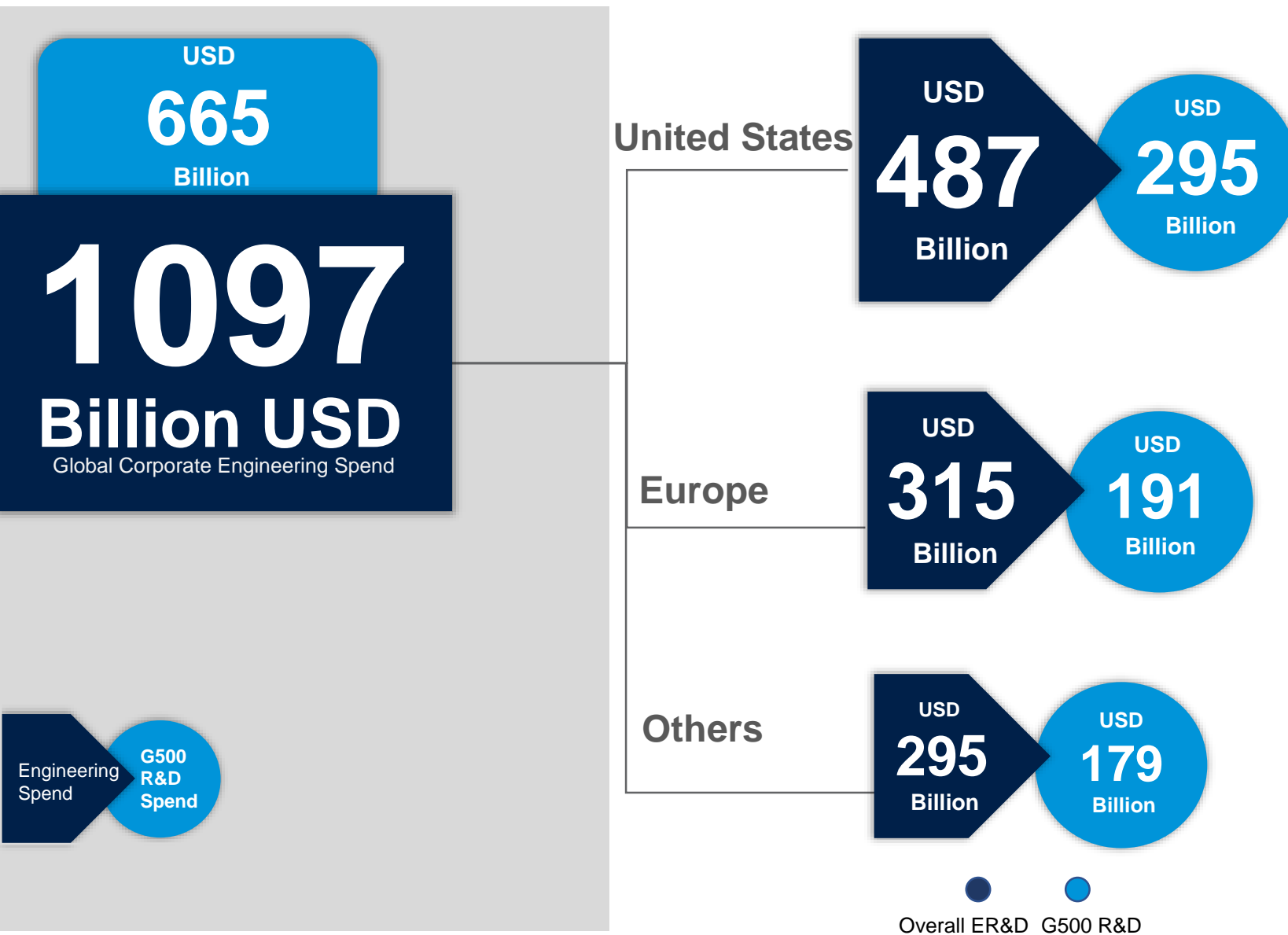
# Global Corporate Engineering Spend in excess of **USD 1 Trillion** in 2017

G500 organizations are firms with most R&D spend across:

- Software and internet
- Automotive
- Consumer electronics
- Semiconductor
- Telecommunication
- Pharmaceuticals
- Aerospace and defence
- Transportation, construction, and heavy machinery
- Peripherals and storage
- Medical devices
- Industrial
- Energy & Utilities
- Mining and metals



Note: Zinnov has increased its coverage of tail companies across verticals which reflects as an increase in Corporate R&D spend across verticals as compared to 2016



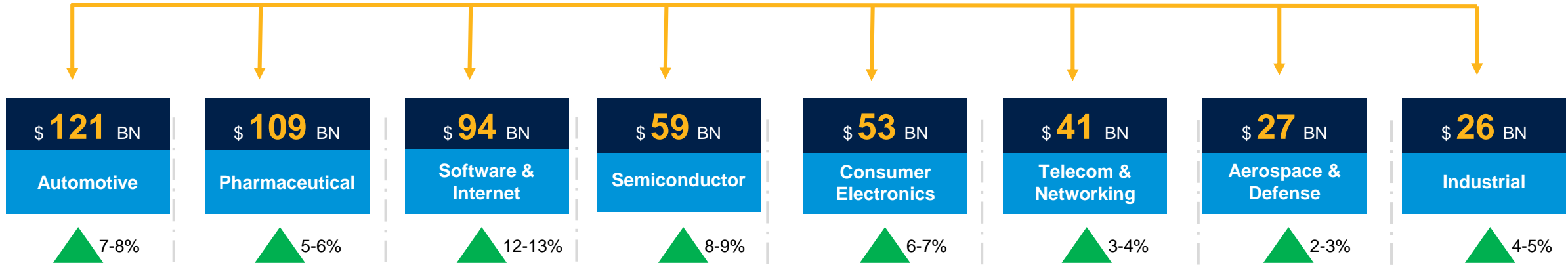
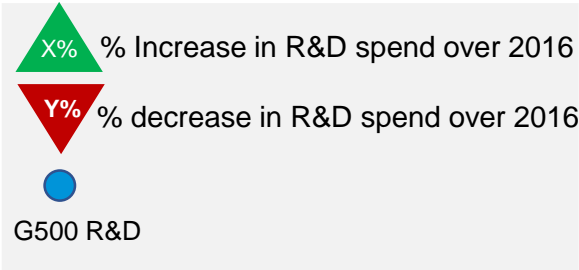
### Highest R&D Spenders\*

AMAZON	USD 16.1 Bn
ALPHABET	USD 13.9 Bn
MICROSOFT	USD 13.0 Bn
INTEL	USD 12.7 Bn
APPLE	USD 11.6 Bn
VOLKSWAGEN	USD 15.1 Bn
ROCHE	USD 10.0 Bn
NOVARTIS	USD 9.0 Bn
DAIMLER	USD 8.3 Bn
ROBERT BOSCH	USD 7.6 Bn
SAMSUNG	USD 12.7 Bn
HUAWEI	USD 11.5 Bn
TOYOTA	USD 9.5 Bn
HONDA	USD 6.3 Bn
NISSAN	USD 4.5 Bn

\* Based on HQ of R&D spenders

USD **665** Billion

2017



### Top R&D Spenders

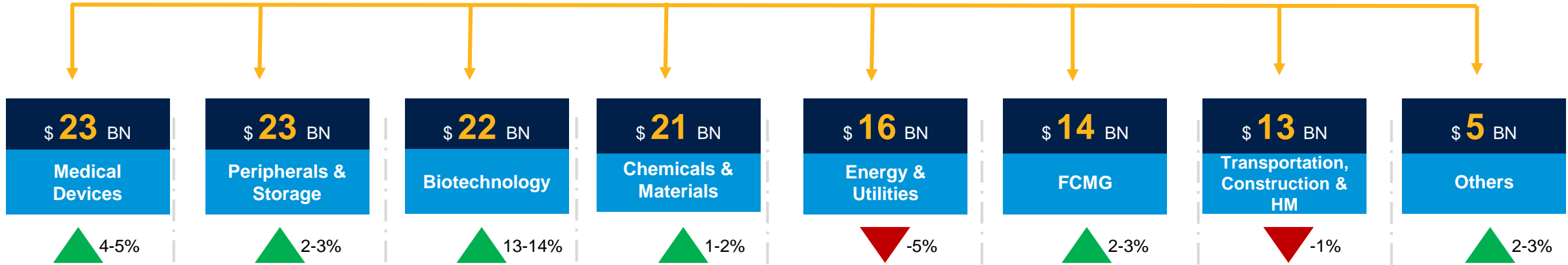
Volkswagen	\$15.1 B	Merck & Co.	\$10.1 B	Amazon	\$16.1 B	Intel	\$12.7 B	Samsung Electronics	\$12.8 B	Huawei Technologies	\$11.5 B	Boeing	\$4.6 B	Schneider Electric	\$1.4 B
Toyota Motor	\$9.5 B	Novartis	\$9.0 B	Alphabet	\$13.9 B	Qualcomm	\$5.5 B	Apple Inc.	\$11.6 B	Cisco Systems	\$6.1 B	Airbus Group	\$3.3 B	ABB	\$1.3 B
Daimler	\$8.4 B	Pfizer Inc.	\$7.8 B	Microsoft	\$13.0 B	Broadcom	\$3.3 B	Sony Corporation	\$4.1 B	Nokia	\$5.4 B	BAE Systems	\$1.9 B	Sumitomo Electric	\$1.1 B
General Motors	\$8.1 B	AstraZeneca plc	\$5.9 B	Facebook	\$5.9 B	Taiwan Semiconductor	\$2.2 B	Panasonic	\$4.0 B	Ericsson	\$3.7 B	Safran	\$1.9 B	TDK	\$0.8 B
Robert Bosch	\$7.7 B	Sanofi S.A.	\$5.7 B	IBM	\$5.8 B	Micron Technology	\$1.8 B	Fujitsu	\$1.6 B	NTT	\$1.9 B	Leonardo-Finmeccanica	\$1.5 B	Murata Manufacturing	\$0.8 B



USD **665** Billion

2017

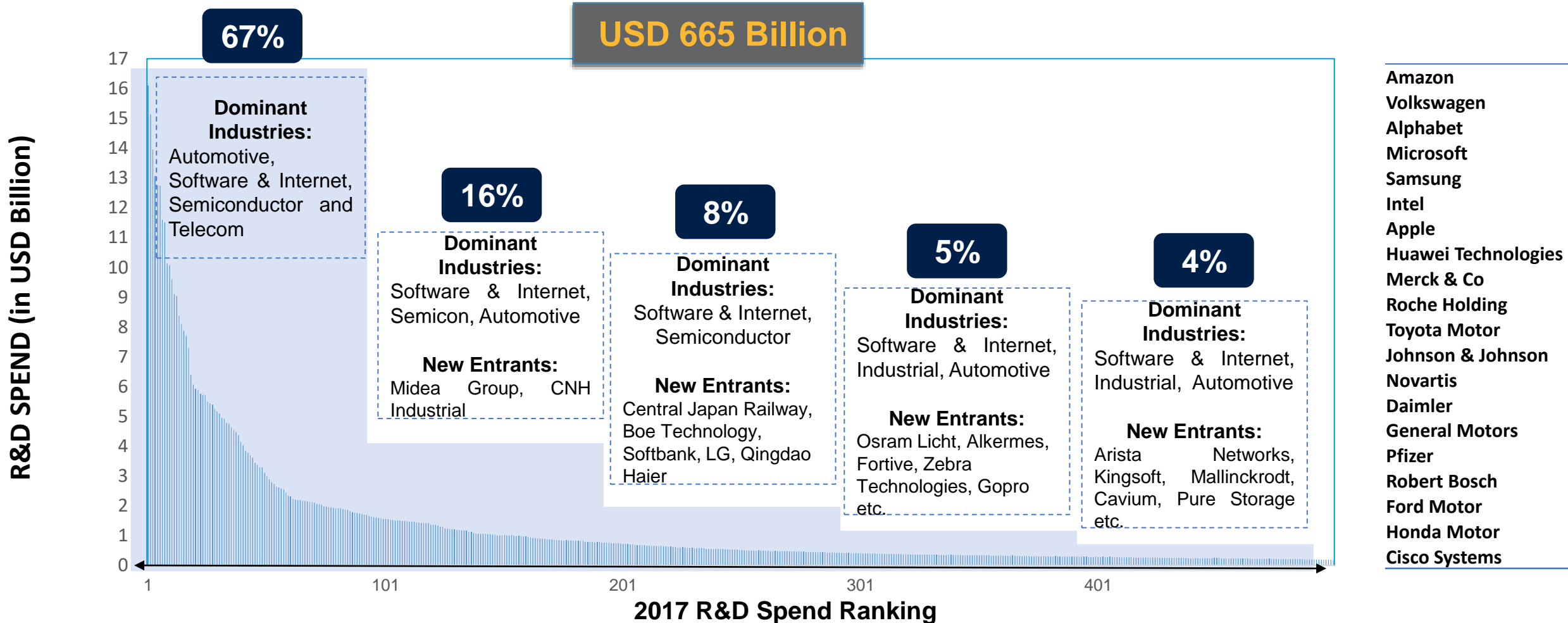
X% % Increase in R&D spend over 2016  
 Y% % decrease in R&D spend over 2016  
 G500 R&D  
 Growth rates reported in constant currency



**Top R&D Spenders**

Medtronic	\$2.2 B	Canon	\$2.8 B	Gilead Sciences	\$5.1 B	BASF	\$2.1 B	Petrochina	\$1.7 B	Procter & Gamble	\$1.9 B	Caterpillar	\$1.9 B	Metallurgical Corp. of China	\$0.9 B
Boston Scientific	\$0.9 B	Dell	\$2.6 B	Celgene	\$4.5 B	3M	\$1.7 B	Exxon Mobil	\$1.1 B	Nestle	\$1.8 B	CRRC Corp.	\$1.5 B	Nippon Steel	\$0.6 B
Becton Dickinson	\$0.8 B	Western Digital	\$2.4 B	Amgen	\$3.8 B	Dupont	\$1.6 B	Total S A	\$1.1 B	Unilever	\$1.1 B	China Railway Construction	\$1.4 B	POSCO	\$0.5 B
Thermo Fisher Scientific	\$0.8 B	Lenovo	\$1.4 B	Biogen	\$1.9 B	Dow Chemical	\$1.6 B	Royal Dutch	\$1.0 B	L'Oreal	\$0.9 B	Deere & Company	\$1.4 B	Vale	\$0.3 B
Stryker Corp	\$0.7 B	Seagate Technology	\$1.2 B	Monsanto	\$1.6 B	Sumitomo Chemical	\$1.5 B	Schulmberger	\$1.0 B	Pepsico	\$0.8 B	CNH	\$0.8 B	Kobe Steel	\$0.3 B

## Contribution of G500 R&D Spenders



PERCENTAGE OF TOTAL G500



Global Engineering R&D Landscape

Mindtree profile – PES 2017





Mindtree has consistently developed its capabilities over the past decade to establish itself as an industry leader for ER&D services. The company's investments in building IP, frameworks, and accelerators coupled with a robust partner ecosystem have contributed towards its leadership positioning at an overall level. The firm has strong capabilities across verticals such as telecom, consumer electronics, enterprise & consumer software, automotive, and semiconductors.



## Key differentiators – Mindtree

- **Partner for “World’s Firsts”:** The firm has a strong focus on developing “Industry’s first” solutions across areas (Point-to-multipoint audio streaming, V2X for connected cars, android-based TV for a luxury consumer electronics firm, etc.)
- **Focus on IP and accelerators:** Mindtree is among the world leaders in Bluetooth IP licensing. It has filed 15 patents in this space (4 for customers and 11 in-house). The firm strives to include accelerators as part of most engagements
- **Ecosystem leverage:** Mindtree has built a robust ecosystem around next generation firms such as Acquia, AWS, Cloudera, DataStax, and Hortonworks to derive capabilities for digital engineering
- **Proactive approach in engagements:** Mindtree has established itself as a relevant partner for clients and takes a proactive approach in engagements for enhanced delivery, project management, and quality control

Mindtree has a strong focus on developing products, accelerators, and IP across the entire PDLC

## PRODUCT DEVELOPMENT

End-to-end reliability of dev-test and production environment to drive continuous innovation

Mindtree offers comprehensive end-to-end ownership and reliability of applications across all environments throughout the PDLC. To drive continuous integration and automation, the firm has developed platforms such as:

- **CAPE™ (Composable Automated Platforms for Enterprises)** to drive Agile-DevOps tooling and environment integration, provisioning, build and automation through a single interface. The platform coupled with the firm's integrated QA capabilities provides IT teams a seamless shift to Agile-DevOps
- **MWatch™**, an integrated IT infrastructure management and service platform for infrastructure monitoring

## CUSTOMER ONBOARDING AND SUPPORT

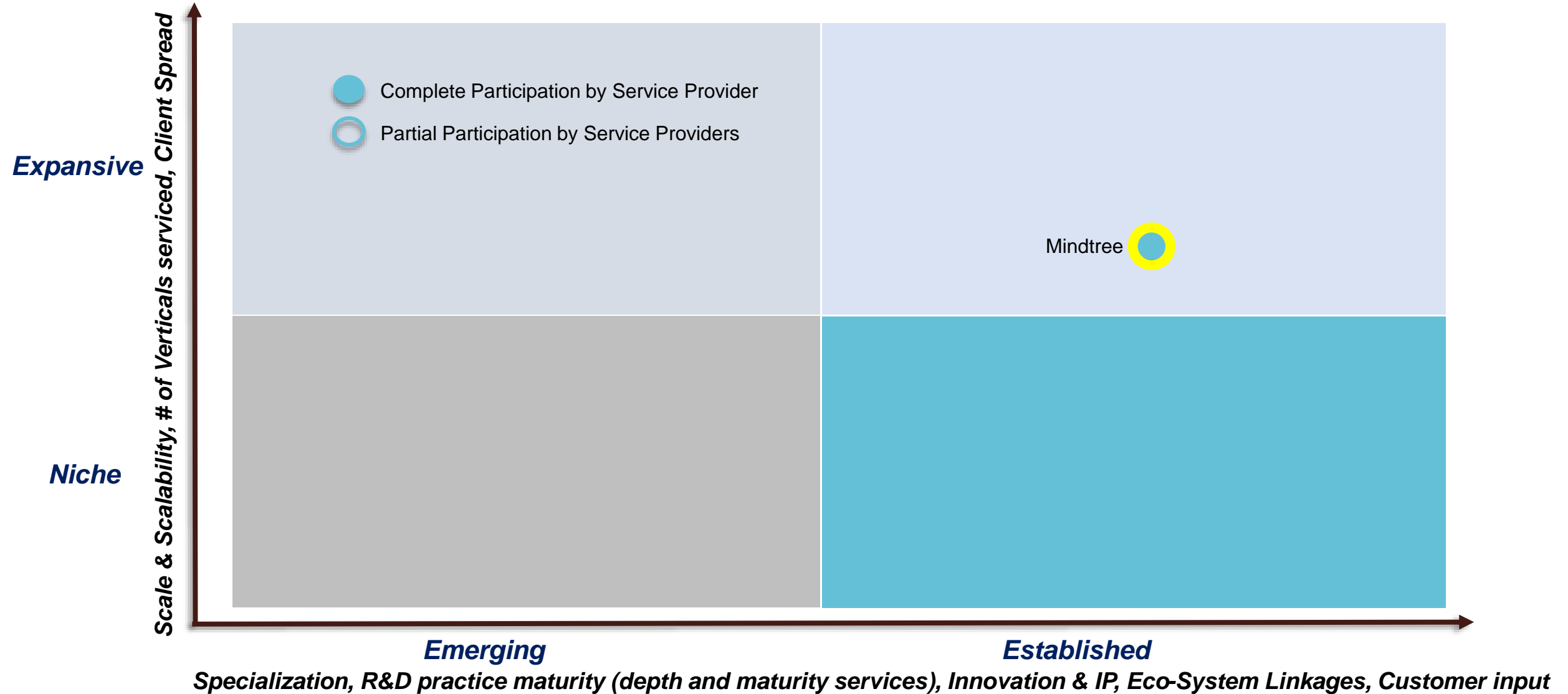
Solutions for joint GTM and faster time to market

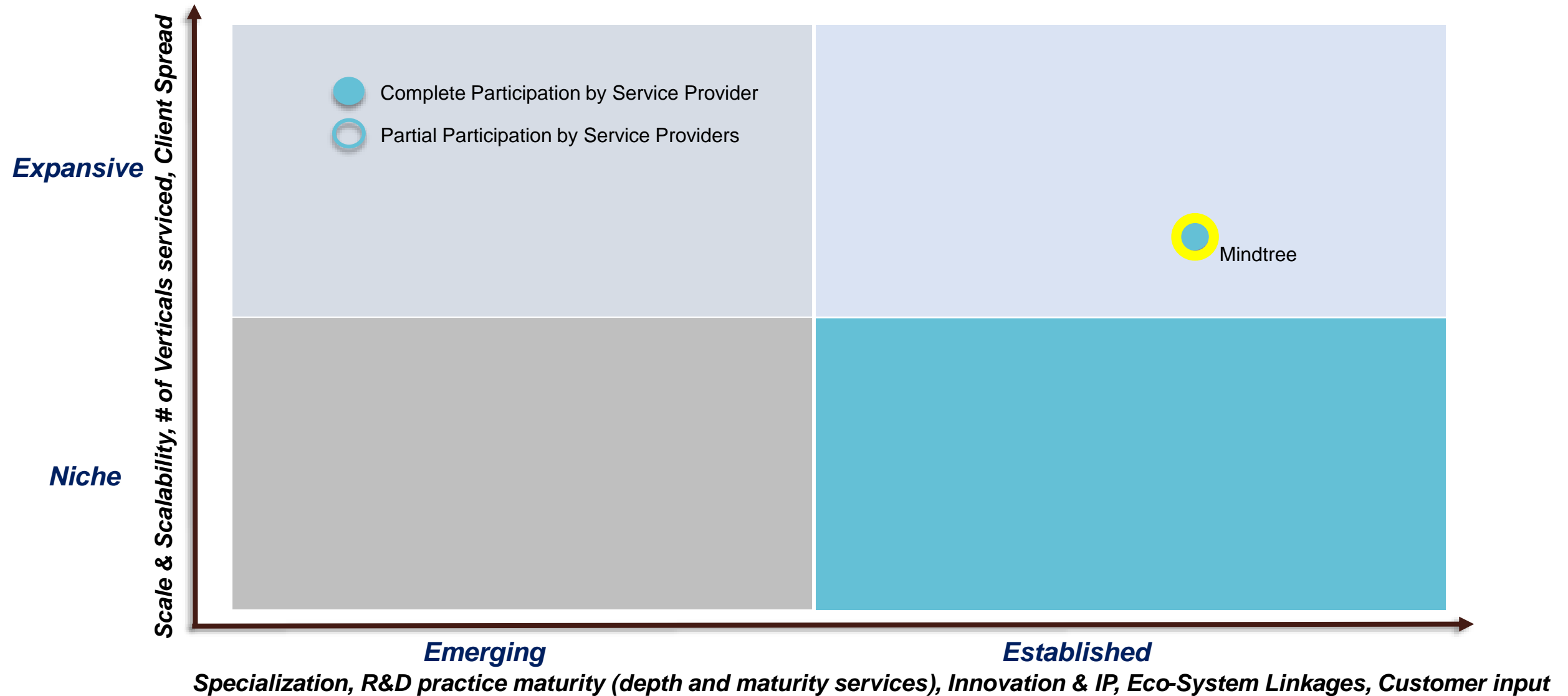
- **Gladius** is an open, integrated and intelligent video surveillance platform to connect and access cameras, recorders, access control, IoT sensors. It provides an integrated dashboard to monitor alerts, device management and analytics.
- **Connected building platform** drives sustainability and enhances comfort levels of occupants through IoT and video analytics
- **Flooresense** is a cloud based platform that helps enterprises enhance in-store conversion by connecting relevant store associates with high potential shoppers. It identifies and prioritizes potential shoppers using video feeds and custom algorithms
- **Mindtree** has also built IoT platforms such as **Asset+** (asset monitoring platform) and **People+** (location sensing platform)

## CUSTOMER SUCCESS

AI based platform – **Decision Moments** to help understand customer better

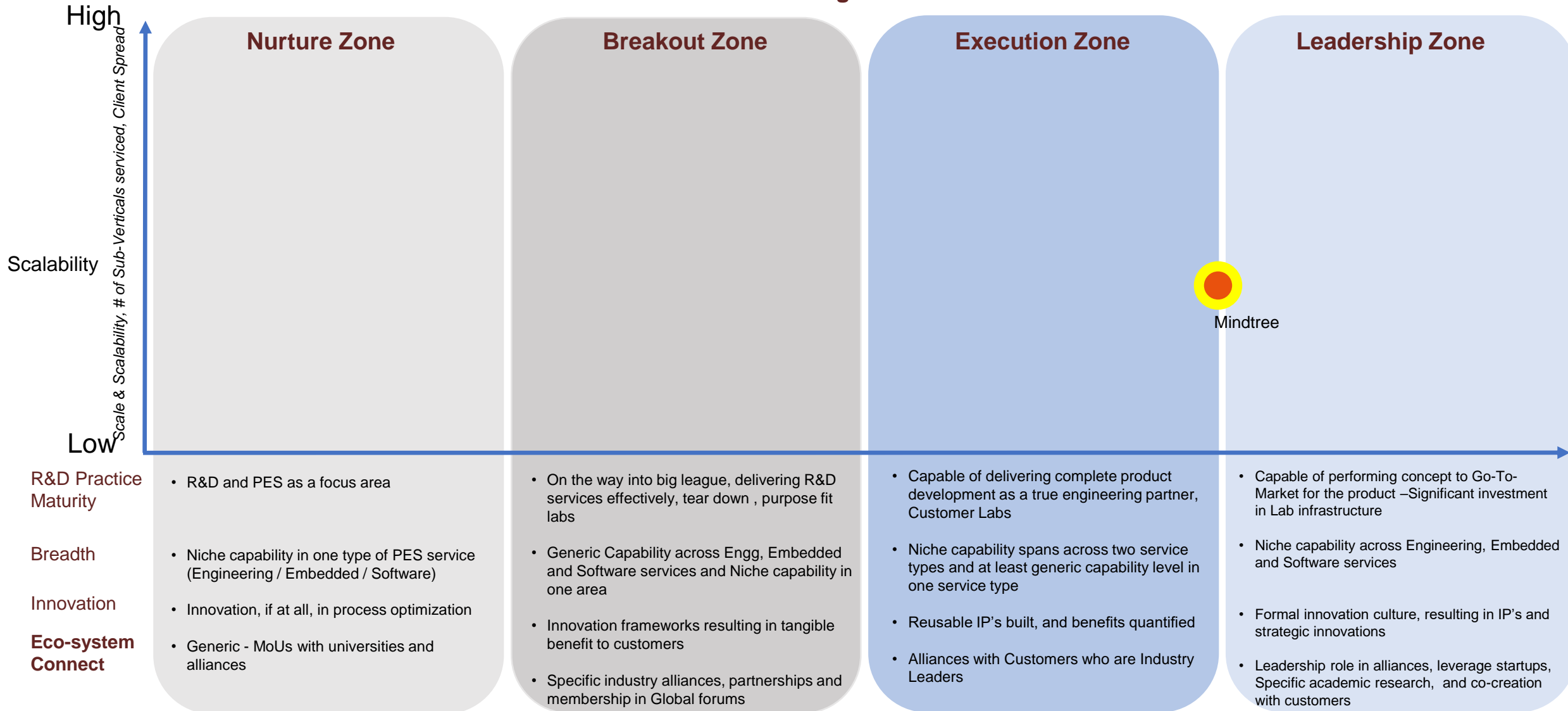
- Caters to B2B use cases such as reducing customer churn, increasing customer lifetime value through cross sell / up sell and rationalizing product features through usage analytics
- Applies continuous learning algorithms to large data pools
- Includes more than 20 industry-specific machine-learning algorithms based on deep learning techniques
- Offers access to a design store with 35 prebuilt technology components for big data programs
- Provisions a modeling sandbox to perform rapid exploratory data analysis before investing at scale
- Enables 25 business apps to be leveraged across technology, consumer goods, travel, banking and insurance industries





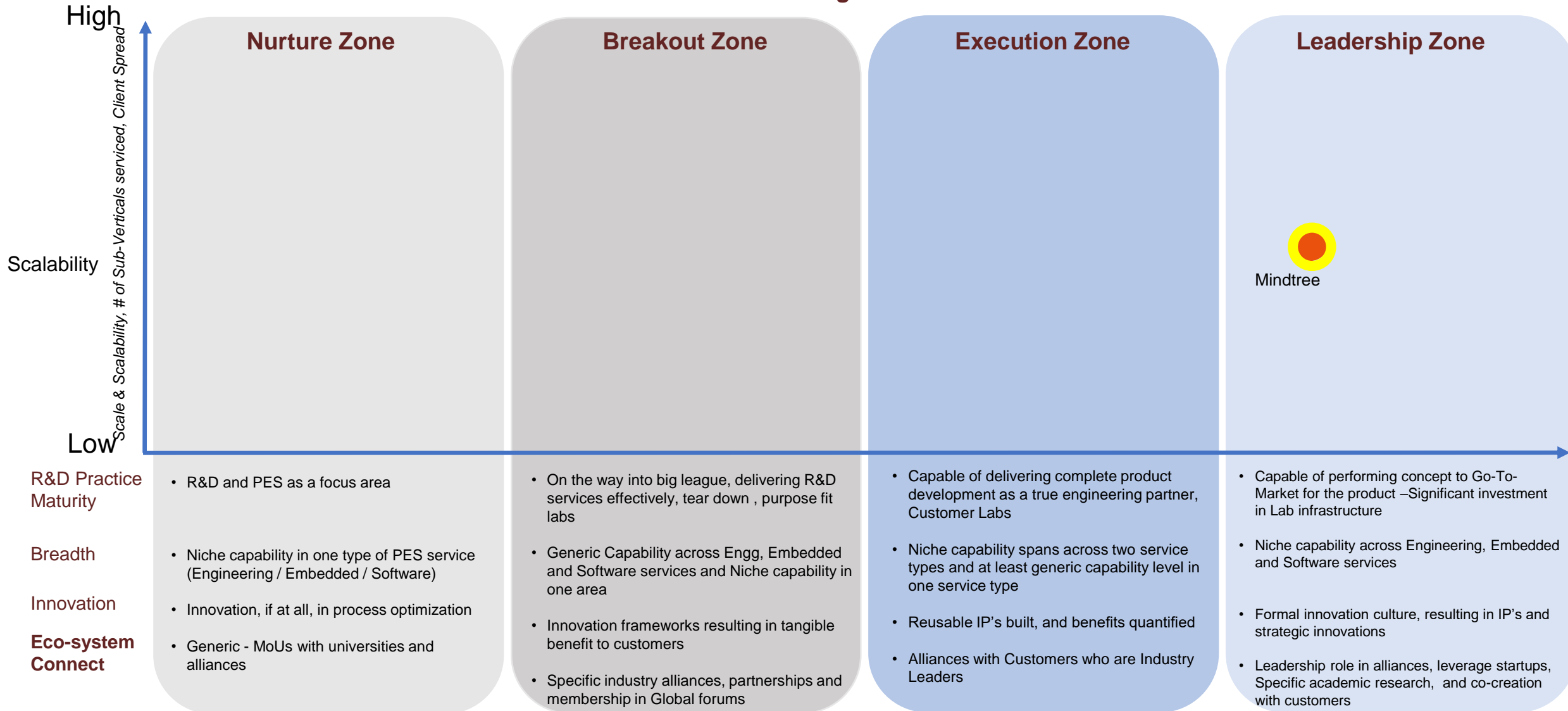
Vertical	Key Expertise Area	Position in Market	Analyst Commentary
Automotive	<ul style="list-style-type: none"> <li>• Infotainment</li> <li>• Telematics</li> <li>• Autonomous driving</li> <li>• Navigation Services</li> <li>• Connectivity</li> <li>• Platforms and frameworks</li> <li>• Fleet management, diagnostics, HMI</li> </ul>	Leadership Zone	<p>Mindtree has developed robust IP for the automotive sector and has its own Mirrorlink stack and has built:</p> <ul style="list-style-type: none"> <li>• CarPlay stack</li> <li>• V2X platform</li> <li>• Cloud based solution to monitor driver stress levels</li> <li>• Test automation framework for automated code update detection and optimized test runs</li> </ul>
Consumer Electronics	<ul style="list-style-type: none"> <li>• Short range Wireless (Bluetooth, Zigbee)</li> <li>• Wearables</li> <li>• Life style Audio/Video Products</li> <li>• AI based adaptive personal electronics</li> </ul>	Leadership Zone	<ul style="list-style-type: none"> <li>• Mindtree has established itself as a pioneer in Bluetooth Technology and has been part of BT standardization initiatives since inception</li> <li>• The firm leverages its capabilities across digital and cloud to enable transformation in the devices ecosystem by offering cloud enabled PLM, content push, cloud infotainment, and M2M solutions</li> </ul>
Consumer Software	<ul style="list-style-type: none"> <li>• Product development and QA</li> <li>• Digital front-end</li> <li>• Analytics</li> <li>• Cloud native roadmap</li> <li>• Design and implementation</li> <li>• Customer Success</li> <li>• Legacy Simplification</li> <li>• Reliability engineering and Product sustenance</li> </ul>	Leadership Zone	<ul style="list-style-type: none"> <li>• Mindtree provides tailored services to large start-ups and B2C SW enterprises with a focus on creating repeatable scalable technology solutions</li> <li>• The firm has witnessed higher than global average growth in this space</li> </ul>
Enterprise Software	<ul style="list-style-type: none"> <li>• Product development and QA</li> <li>• Enterprise IT build and support</li> <li>• Customer on-boarding &amp; support</li> <li>• Automation, SaaS, DevOps</li> <li>• Customer Success</li> <li>• Legacy Simplification</li> <li>• Reliability engineering and Product sustenance</li> </ul>	Leadership Zone	<ul style="list-style-type: none"> <li>• Mindtree has fostered a "Born Digital" approach to build capabilities to cater to cloud-native ISVs and SaaS enterprises</li> <li>• The firm focusses on next generation areas such as Agile-DevOps, cloud, digital, and advanced analytics</li> </ul>
Semiconductor	<ul style="list-style-type: none"> <li>• Pre &amp; post silicon validation</li> <li>• IP Re-Engineering &amp; Design</li> <li>• Frameworks/ platform integration (industry specific)</li> <li>• Digitizing Supply Chain</li> </ul>	Leadership Zone	<ul style="list-style-type: none"> <li>• Mindtree has established clientele with semiconductor companies across areas such as conceptualization, design, development, verification &amp; validation and maintenance support of products</li> <li>• Its turnkey Bluetooth IP products are licensed to OEMs and semiconductor companies with Mindtree providing high end consulting, platform integration, porting, system and IOP testing services</li> </ul>
Telecom	<ul style="list-style-type: none"> <li>• Platforms &amp; software including Cloud orchestration UCaaS, CEX, IoT and analytics</li> <li>• Enterprise and Service provider grade Networking Equipment, datacenters, and cloud, IoT devices, routers and gateways</li> </ul>	Leadership Zone	<ul style="list-style-type: none"> <li>• Mindtree has established itself as a leader in telecom with deep relationships with NW OEMs focused on penetrating the CSP (Communication Service Provider) market</li> <li>• The firm's continual focus on IoT, SDX, Multi-Cloud orchestration coupled with frameworks and accelerators positions them uniquely as a "metal to cloud" partner</li> </ul>

Zinnov Zones – Leading Service Providers

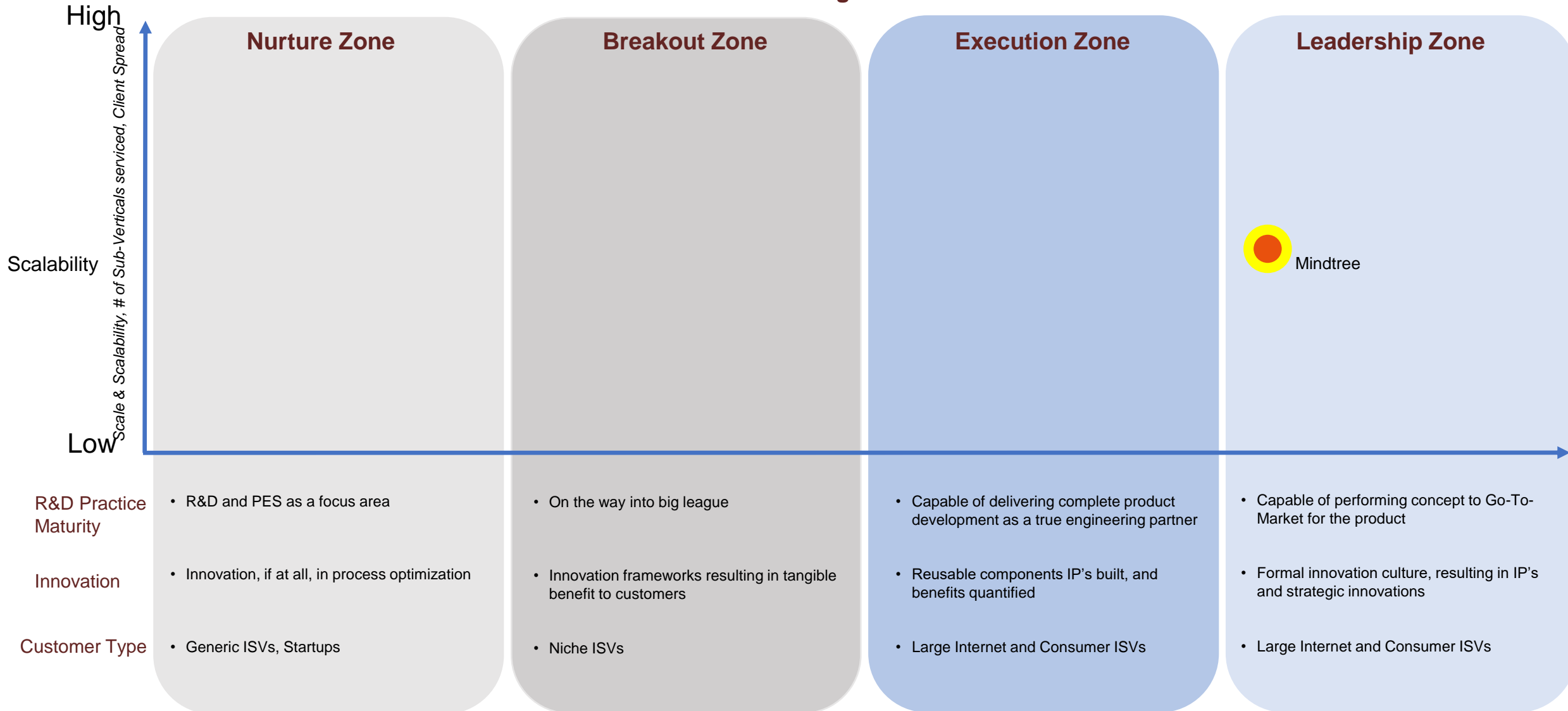




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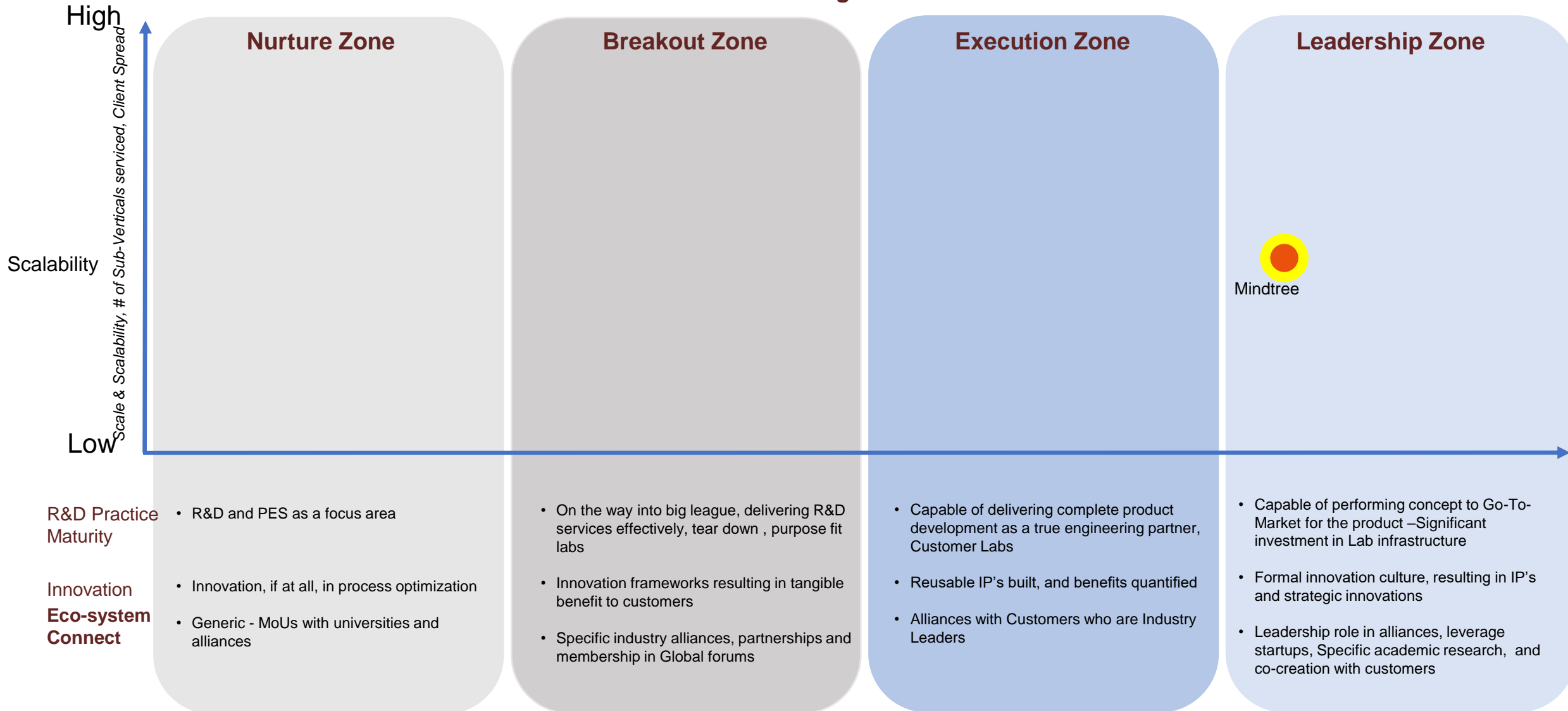
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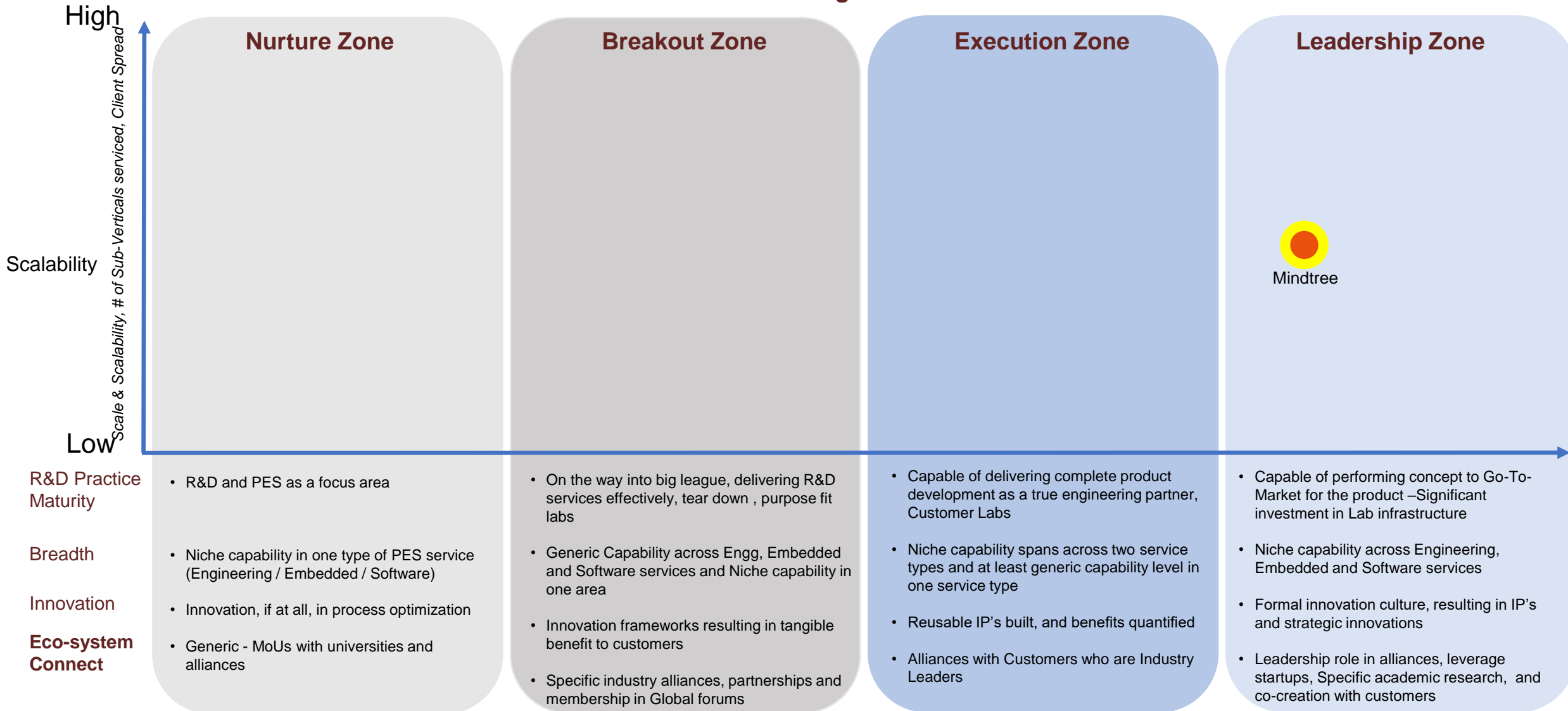
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[www.zinnov.com](http://www.zinnov.com)



[info@zinnov.com](mailto:info@zinnov.com)

SANTA CLARA | HOUSTON | BANGALORE | GURGAON

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