

The art of security orchestration

Managing tomorrow's disruptive security challenges

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The OEM's challenges today

Drive today's business successfully and meet future requirements

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Environment

Finance

Regulations

Technology

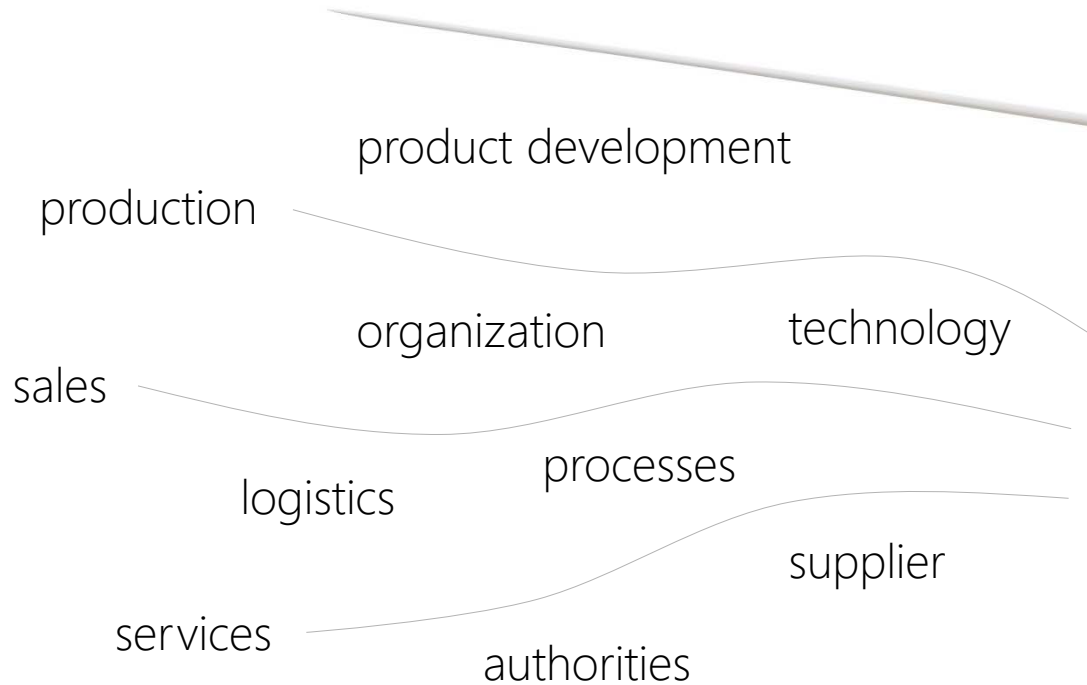


Orchestration as a core competence for business success

OEMs are already conducting their core business

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Digital transformation
causes disruption

Digital transformation causes disruption

Smart Mobility Trends

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Machine
learning

Connected
functions

Electro
mobility

Selling mobility
instead of cars

Big
data

Autonomous
driving



CAN YOU HANDLE SECURITY
IN DIGITAL DISRUPTION?







2+3 findings for future security management

How to meet security needs

2 Challenges



Digitization and connectivity:
Increasing security requirements



No scalable
security approach

3 Steps

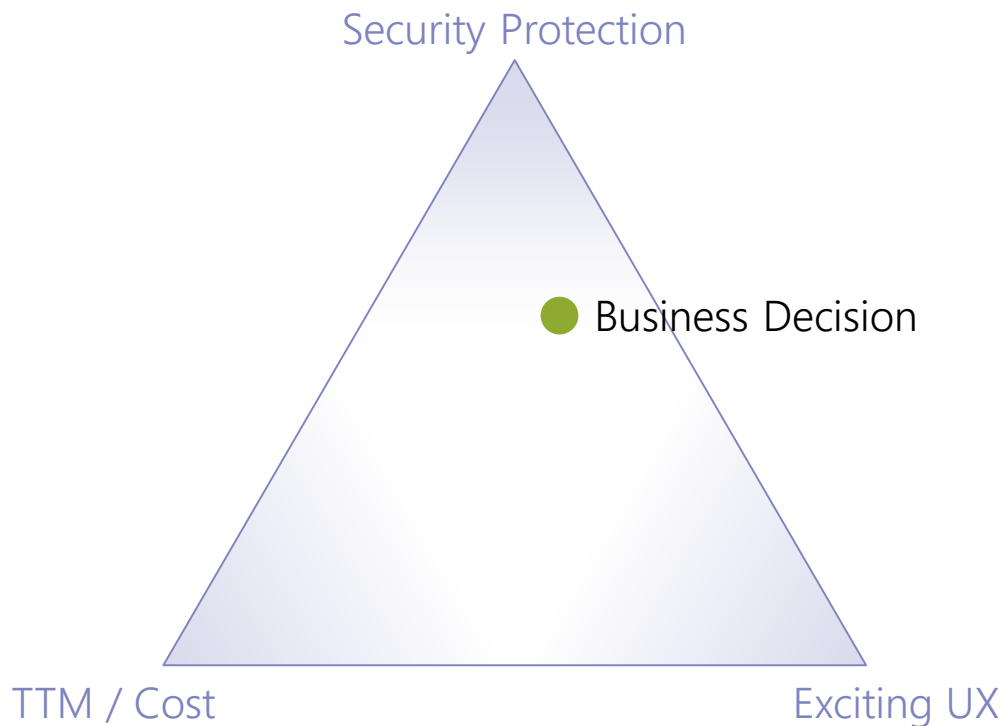


Define security measures
for successful transition

Determine your security targets
and identify your status quo



Operate and maintain
defined security solutions



Automotive Security

- Loss due to fraud
- Higher security cost
- Lower UX due to better authentication

Defining the adequate security approach

Effectual security at calculable costs

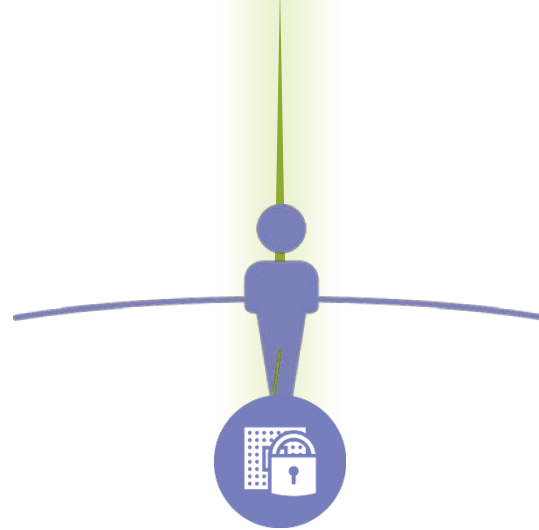
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Falling short of the security requirements

Technological and commercial risk



Meeting the security requirements

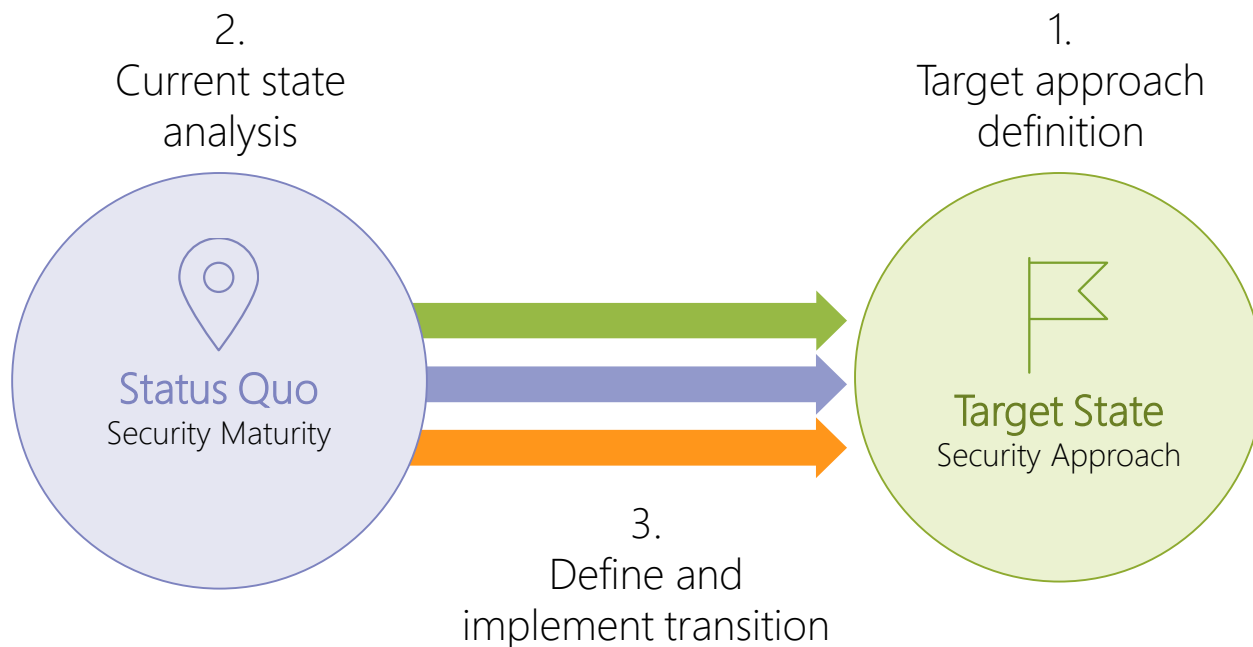
Effectual security at calculable costs



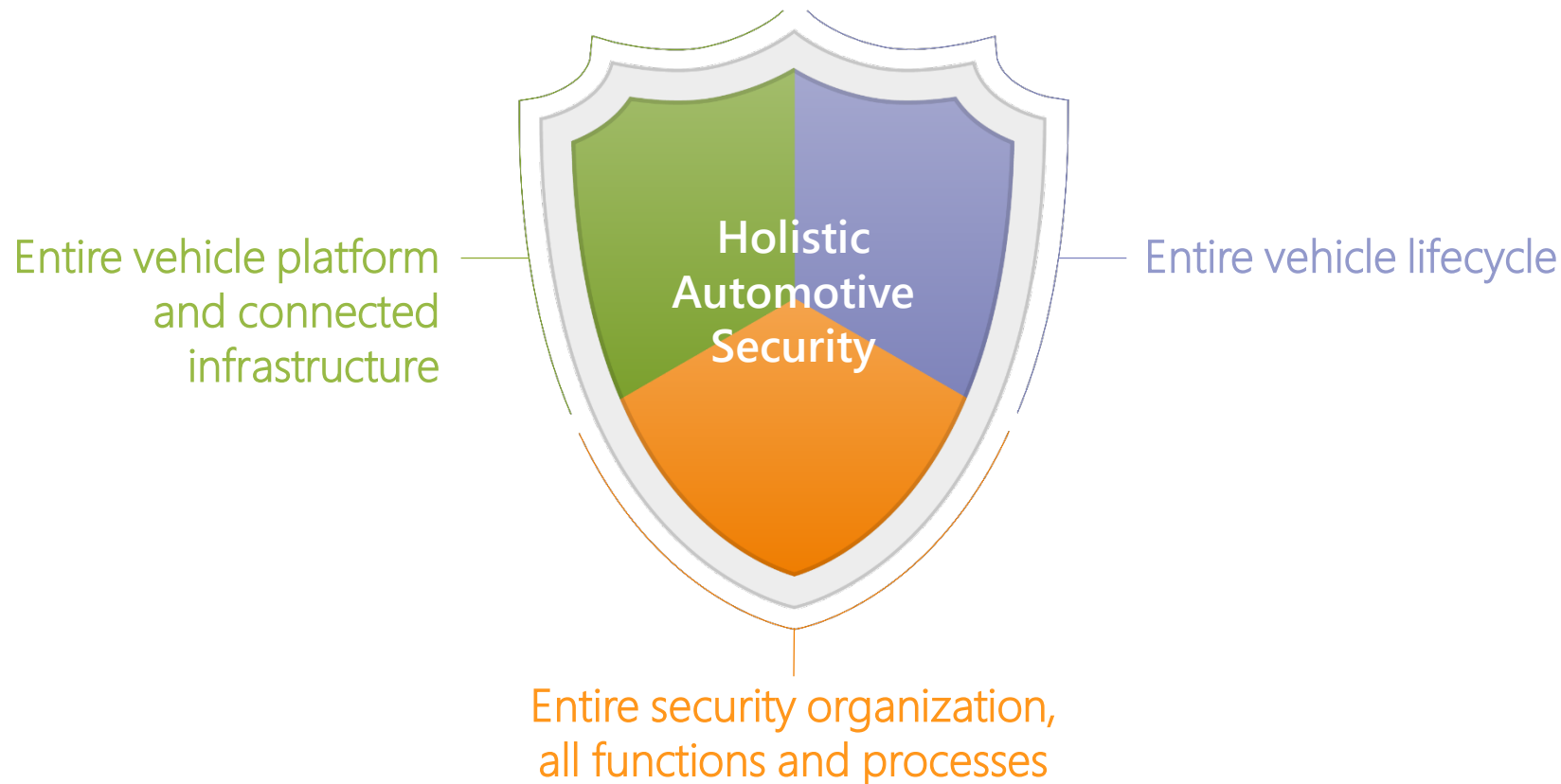
Over-achieving the security requirements

Economical risk



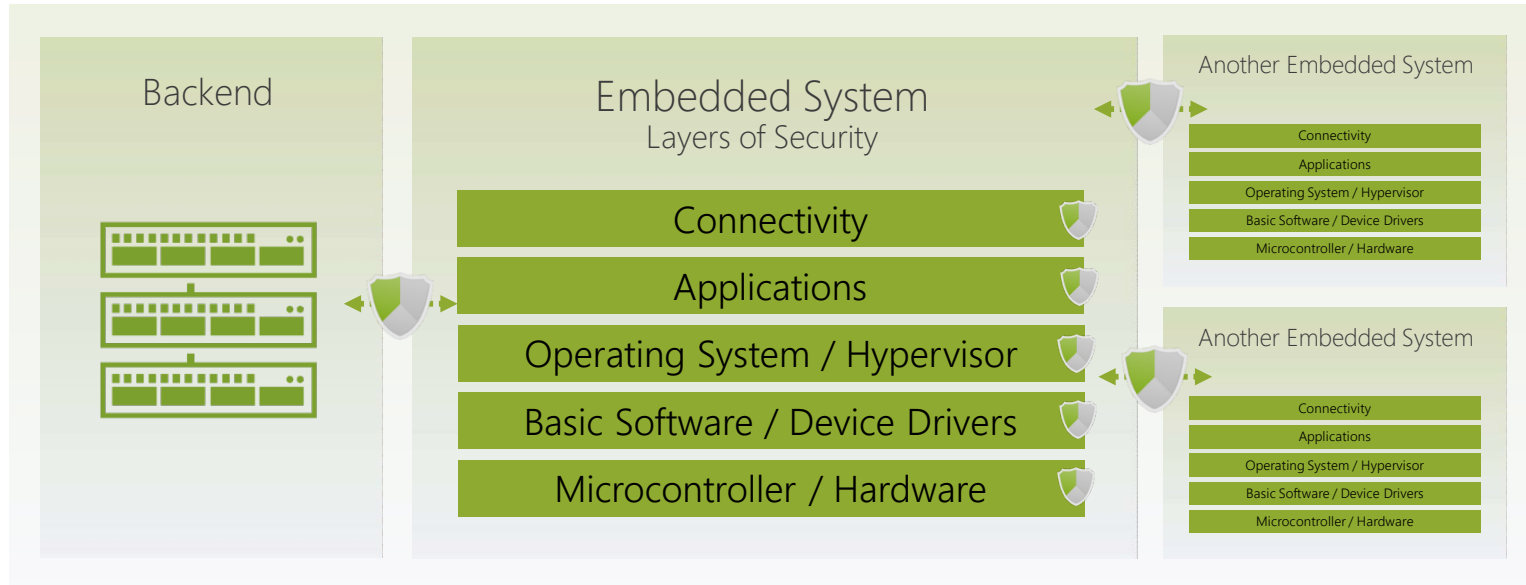






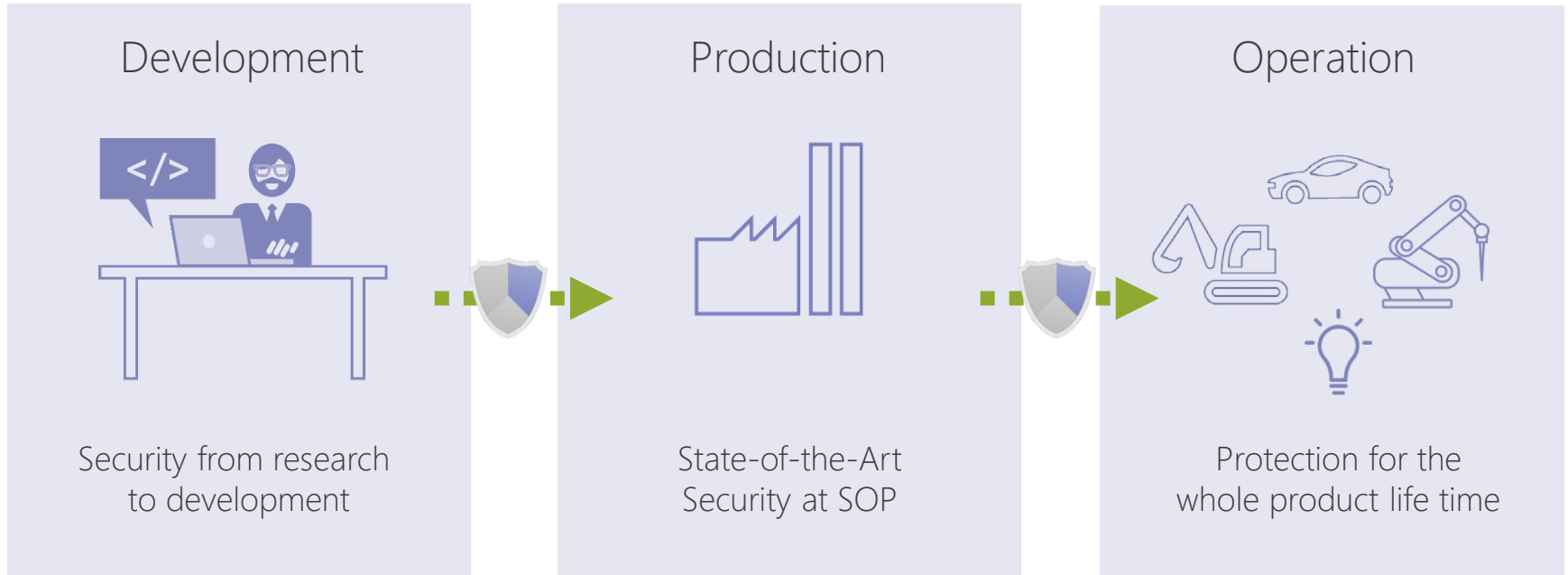


Security for the complete embedded system and infrastructure





Security for the entire life cycle of an embedded system





Security in corporate functions and processes



Security Organization

- Company-wide security awareness, governance, and assurance
- Security engineering processes, roles, responsibilities, and policies
- Security consulting, support, instructions, audits, and trainings



Security Operation

- Security research, intelligence, and monitoring
- Security incident preparation, forensics, and response
- Security operations (credential and update management)

Security Development

- Strategic security development, security vision and roadmap
- Security standardization, lobbying, and strategic cooperation
- Legal and other cross-divisional issues

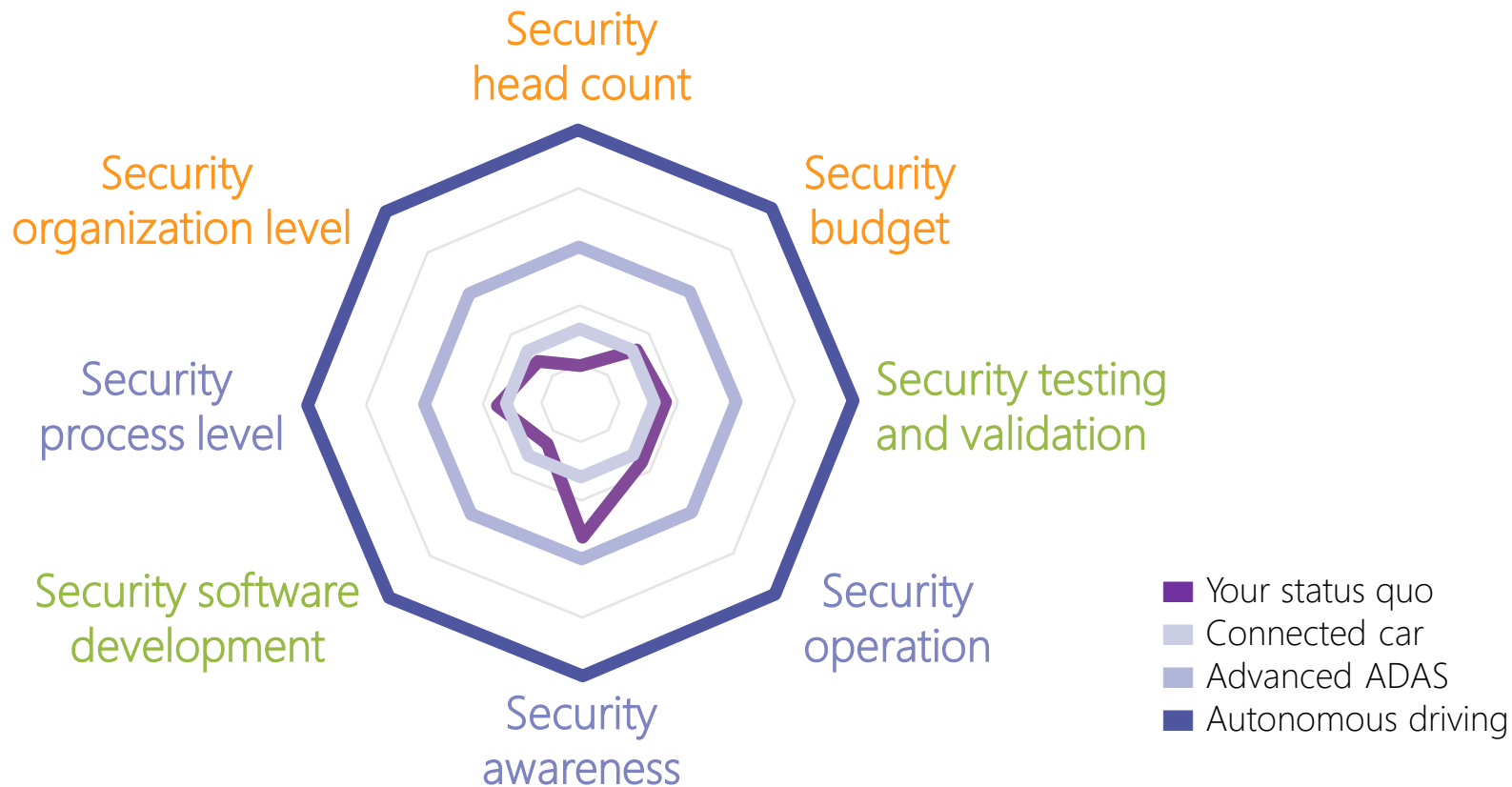


Managing the transition

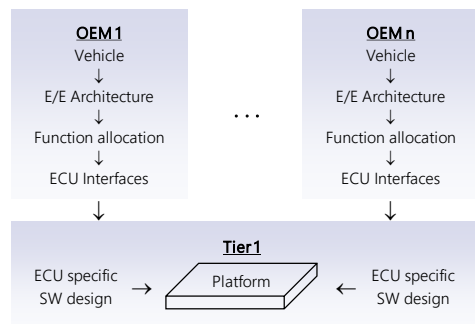
Comparing your status quo with your targeted security approach

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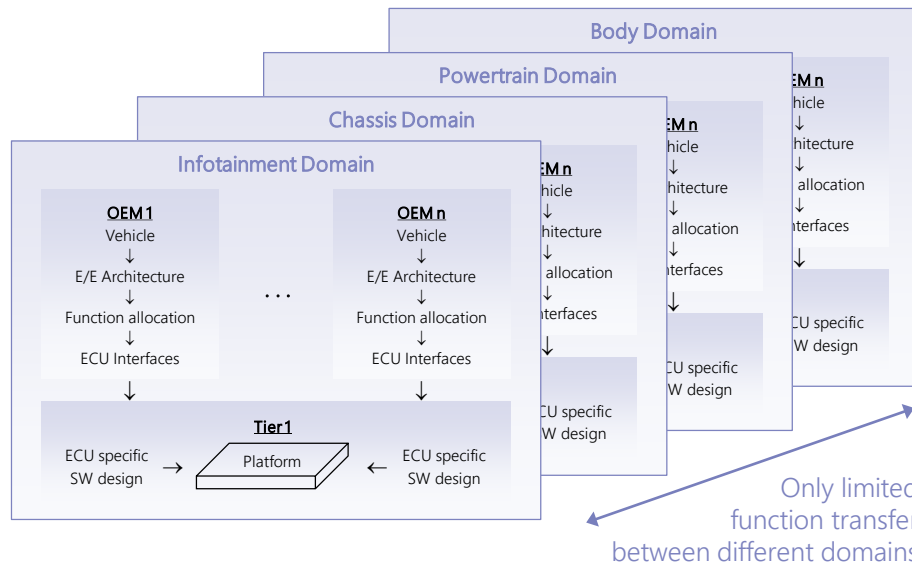
ECU Platform development within domain



Domain specific SW platform design as a consequence of organization structure (Conway's¹ Law)

¹ Conway, Melvin E. (1968): How do committees invent? http://www.melconway.com/Home/Conways_Law.html

Structure on vehicle level

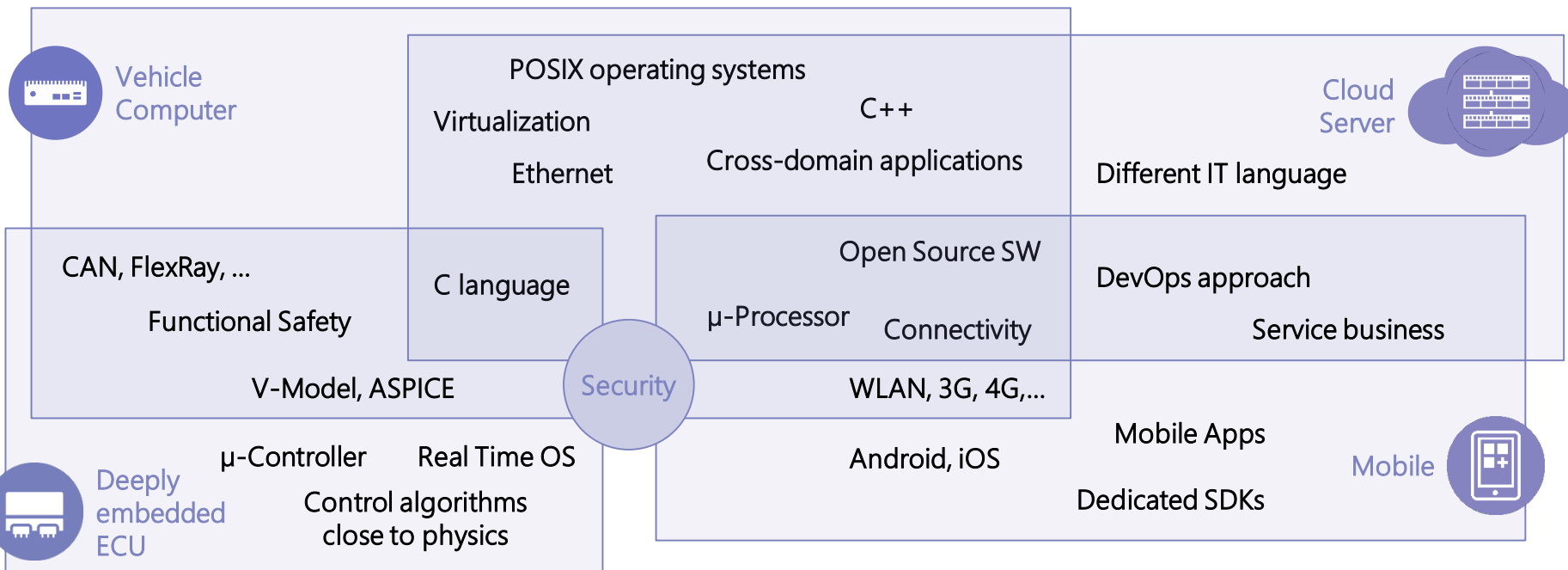


Vehicle Computer Campus & (R)Evolution of the Automotive SW

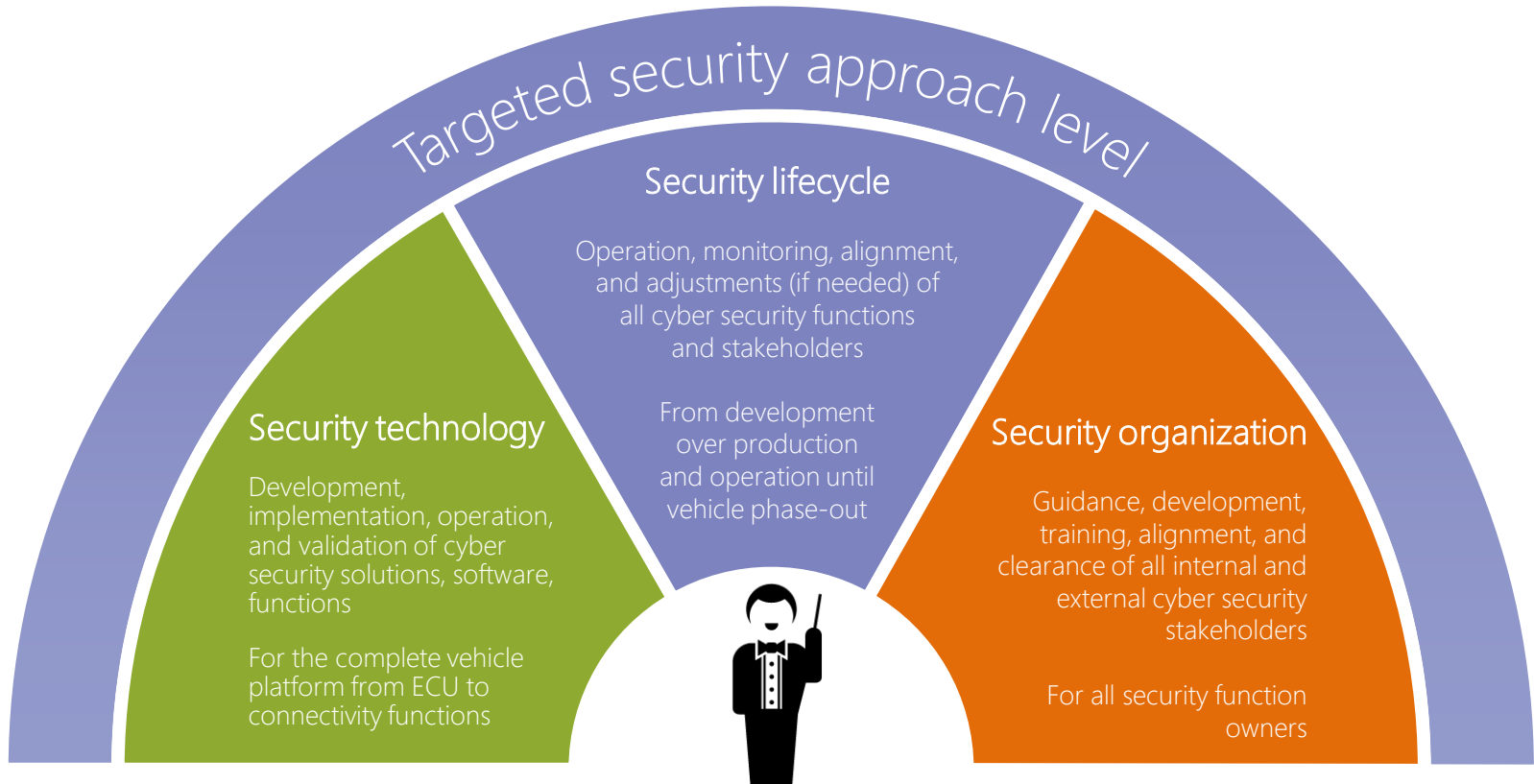
SW ≠ SW: Different types of SW entering Automotive Domain

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Security concepts need to address different computing devices and different software technologies related to automotive



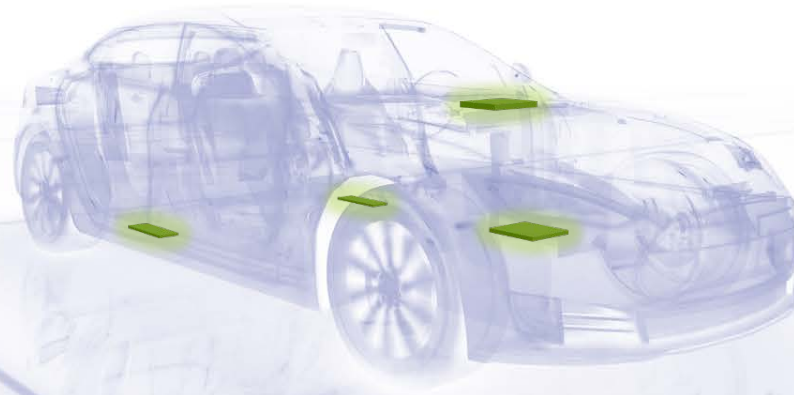
Customized security orchestration approach

Managing transition and operation of your individually required security approach

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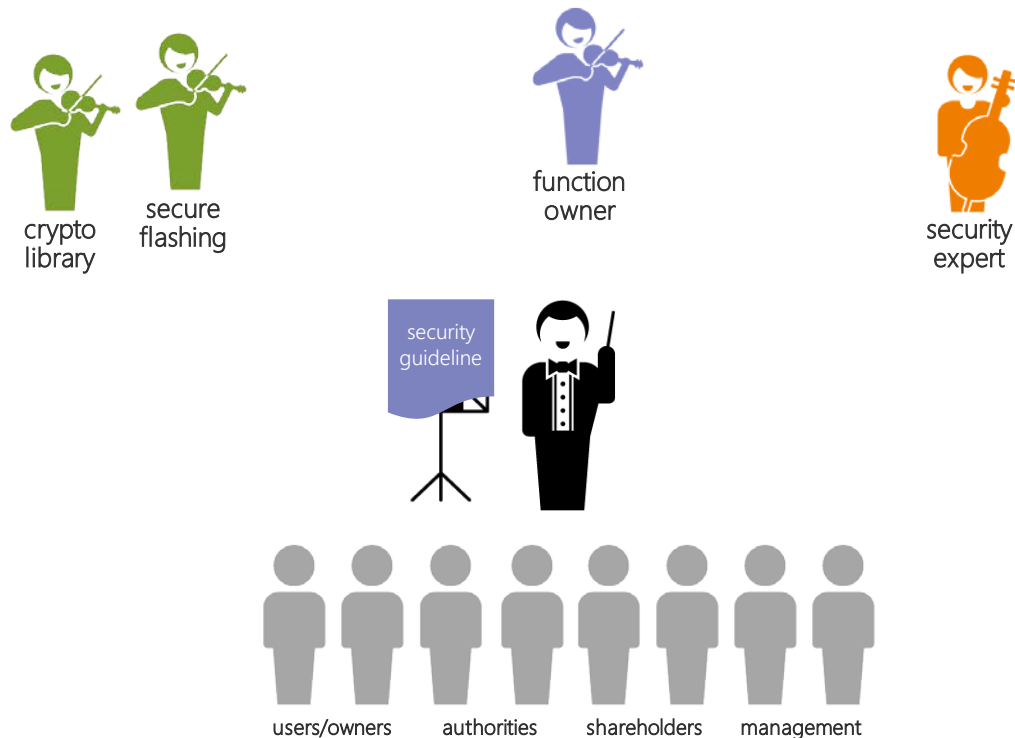
Isolated ECUs, isolated functions, limited connectivity



Customized security orchestration approach

Managing transition and operation of your individually required security approach

Security orchestration of a “small ensemble” with **basic** security complexity



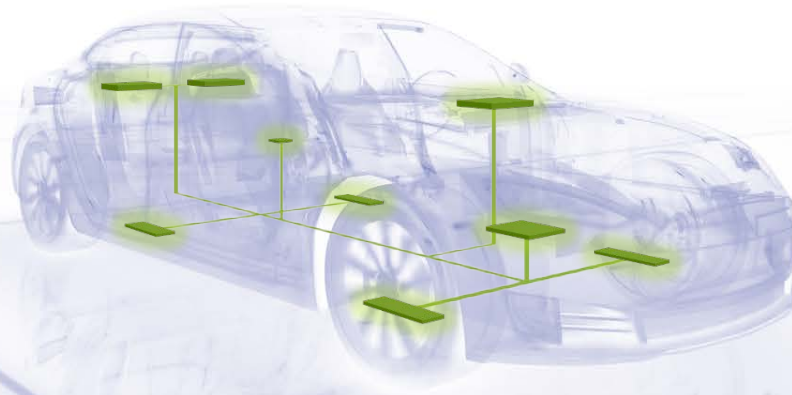
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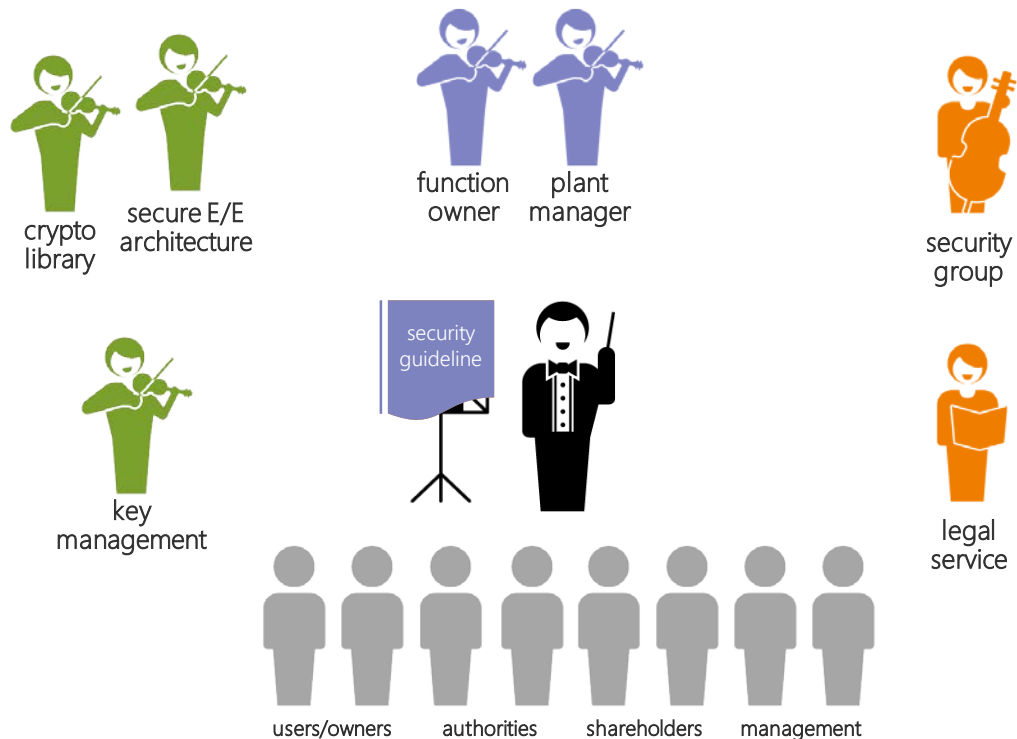
Networked systems, distributed functions, connected vehicles



Customized security orchestration approach

Managing transition and operation of your individually required security approach

Security orchestration of a “chamber orchestra” with **advanced** security complexity



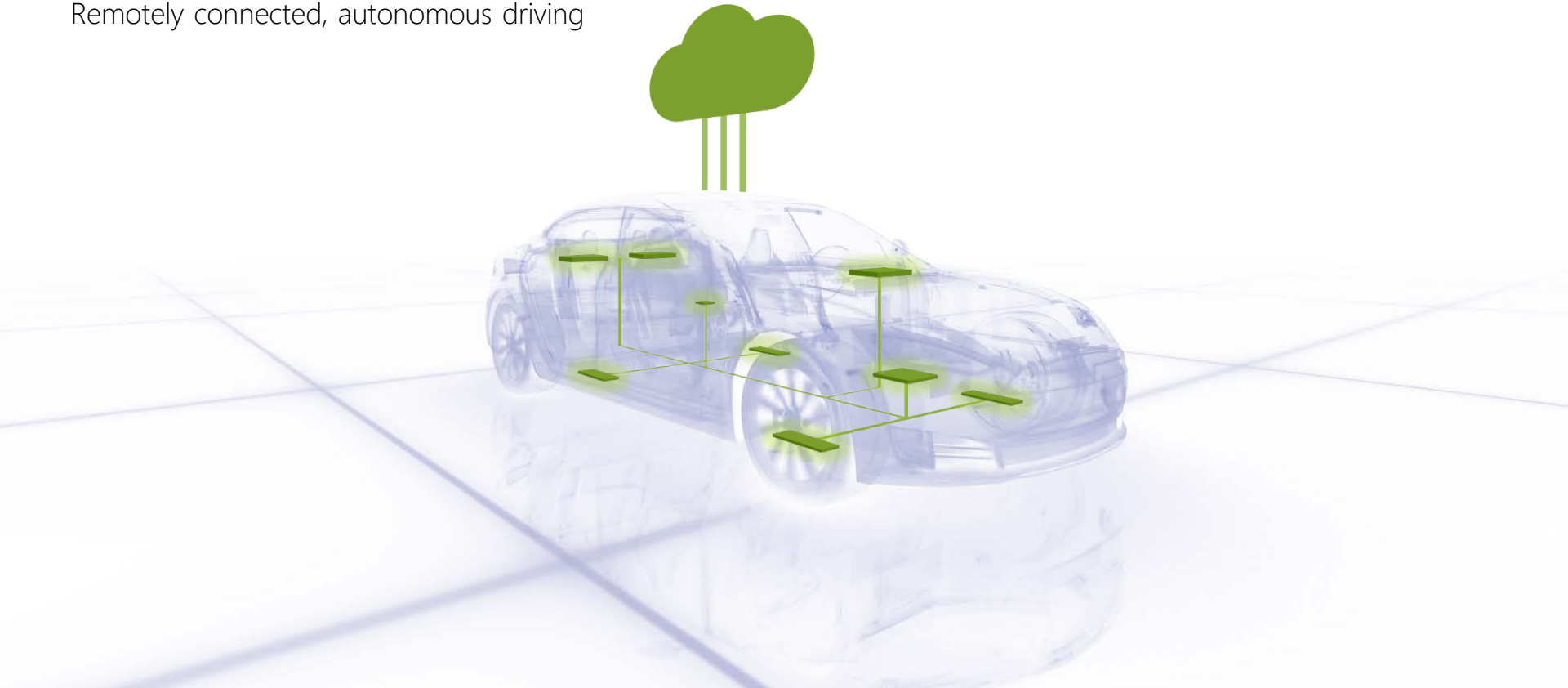
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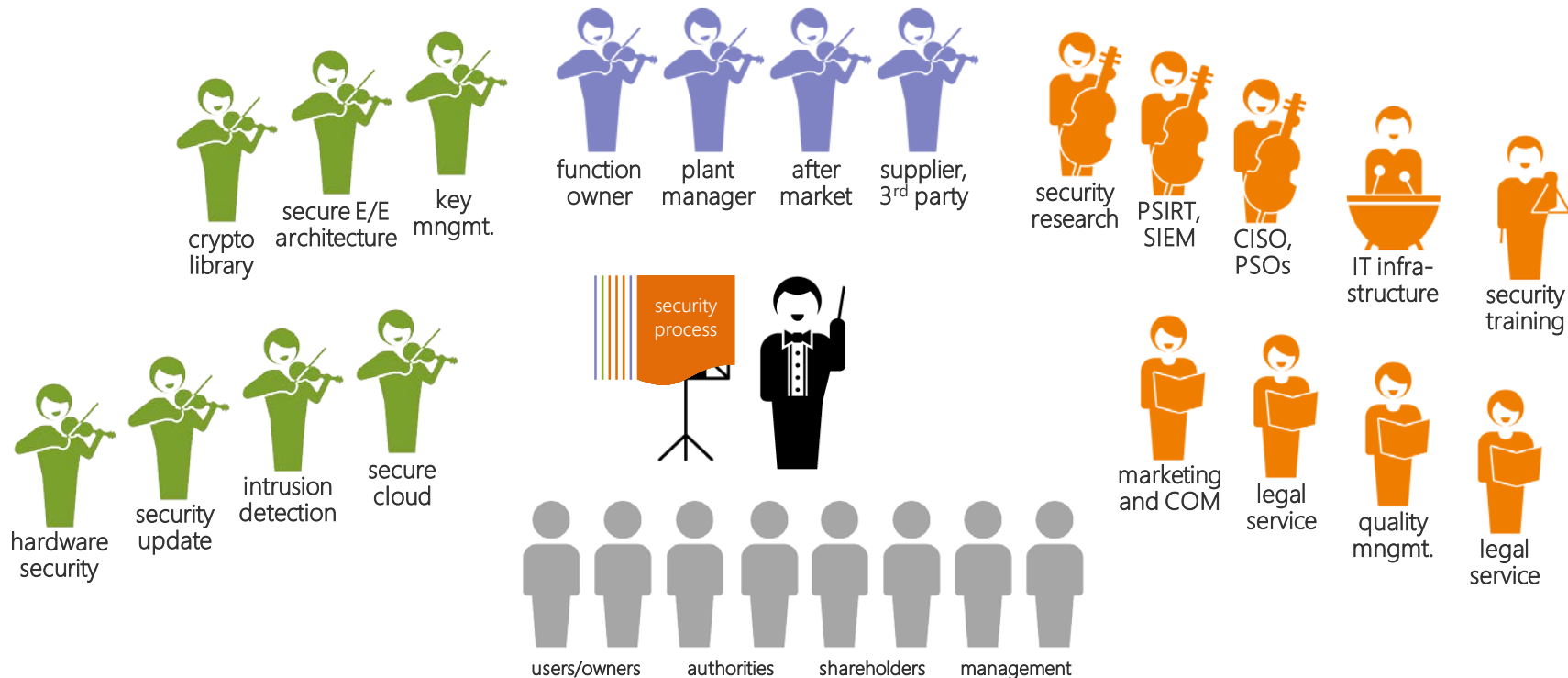
Remotely connected, autonomous driving



Customized security orchestration approach

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Security Orchestration of a "symphony orchestra" with **disruptive** security complexity

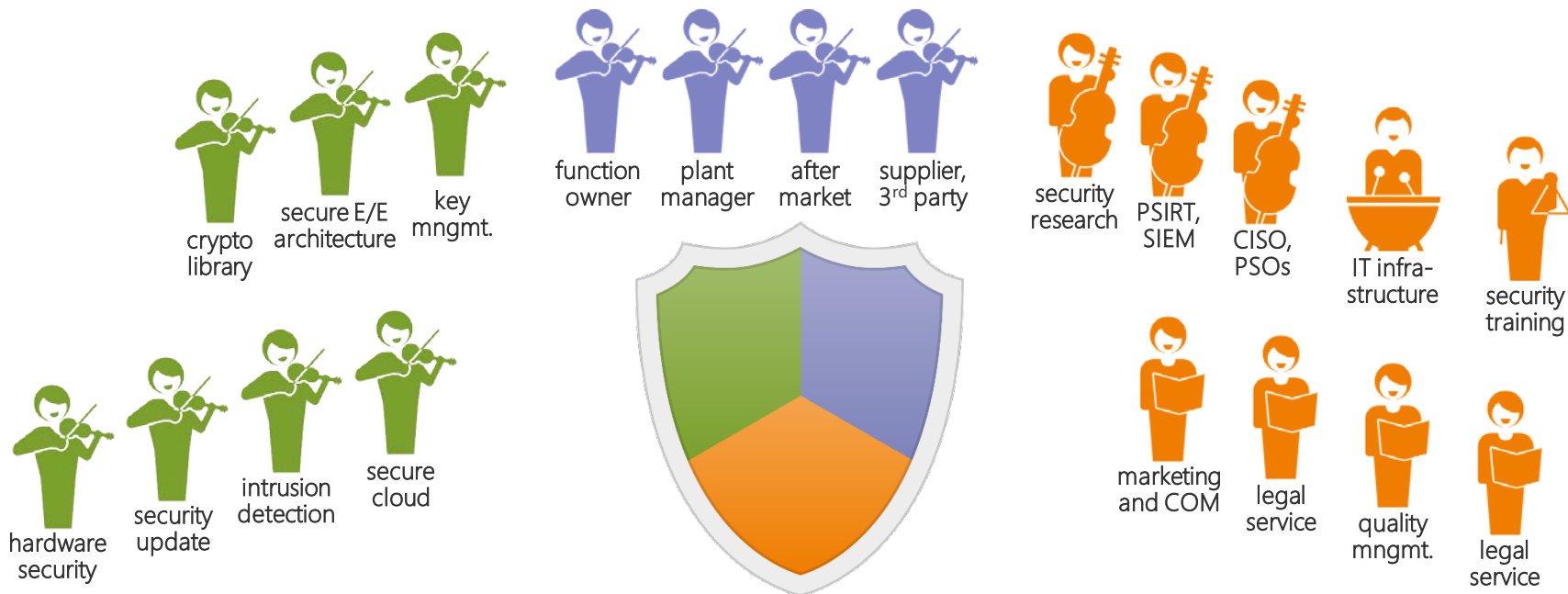


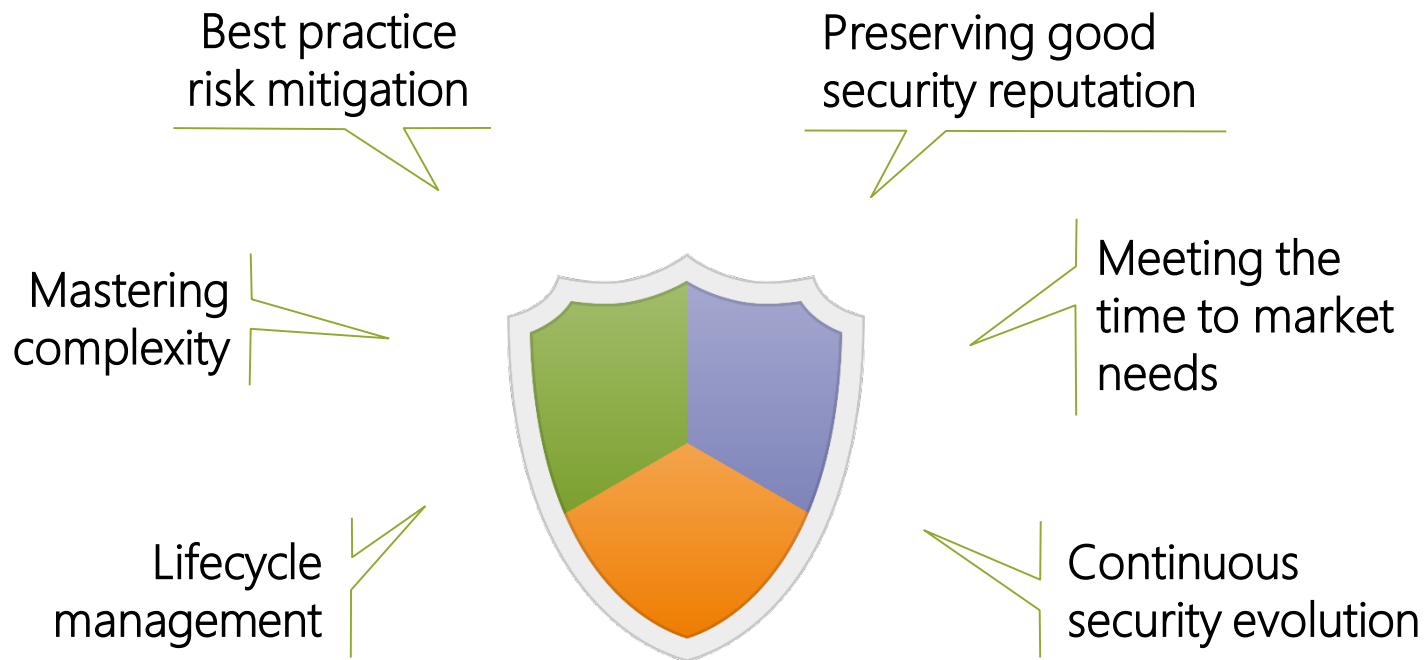
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Thank you for listening!

