

June 4, 2018

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PATH TO COMMERCIALIZING AUTOMATED DRIVING

Forward Looking Statements

This presentation, as well as other statements made by Aptiv PLC (the “Company”), contain forward-looking statements that reflect, when made, the Company’s current views with respect to current events, certain investments and acquisitions and financial performance. Such forward-looking statements are subject to many risks, uncertainties and factors relating to the Company’s operations and business environment, which may cause the actual results of the Company to be materially different from any future results. All statements that address future operating, financial or business performance or the Company’s strategies or expectations are forward-looking statements. Factors that could cause actual results to differ materially from these forward-looking statements are discussed under the captions “Risk Factors” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations” in the Company’s filings with the Securities and Exchange Commission. New risks and uncertainties arise from time to time, and it is impossible for us to predict these events or how they may affect the Company. It should be remembered that the price of the ordinary shares and any income from them can go down as well as up. The Company disclaims any intention or obligation to update or revise any forward-looking statements, whether as a result of new information, future events and/or otherwise, except as may be required by law.

94%

OF ALL ACCIDENTS
ARE CAUSED BY
HUMAN ERROR.



1.25

MILLION ROAD
TRAFFIC DEATHS
ANNUALLY



World Health
Organization

Urban Mobility **CHALLENGES** by 2050



+70%

Of Population



+40%

freight



5x

Emissions



4x

Cost



3x

Travel time

BENEFITS of mobility automation to cities



28%

Fewer Vehicles



87%

Fewer Accidents



66%

Lower Emissions



44%

Fewer Parking Spaces



30%

Shorter Travel Time

Addressing Mobility's Toughest Challenges

WE DEVELOP ADVANCED TECHNOLOGIES THAT MAKE THE WORLD MORE SAFE, GREEN, AND CONNECTED BY PROVIDING OUR CUSTOMERS WITH INTELLIGENT MOBILITY SOLUTIONS

• **APTIV** •



SOFTWARE



SENSING AND
COMPUTING



SIGNAL & POWER
DISTRIBUTION



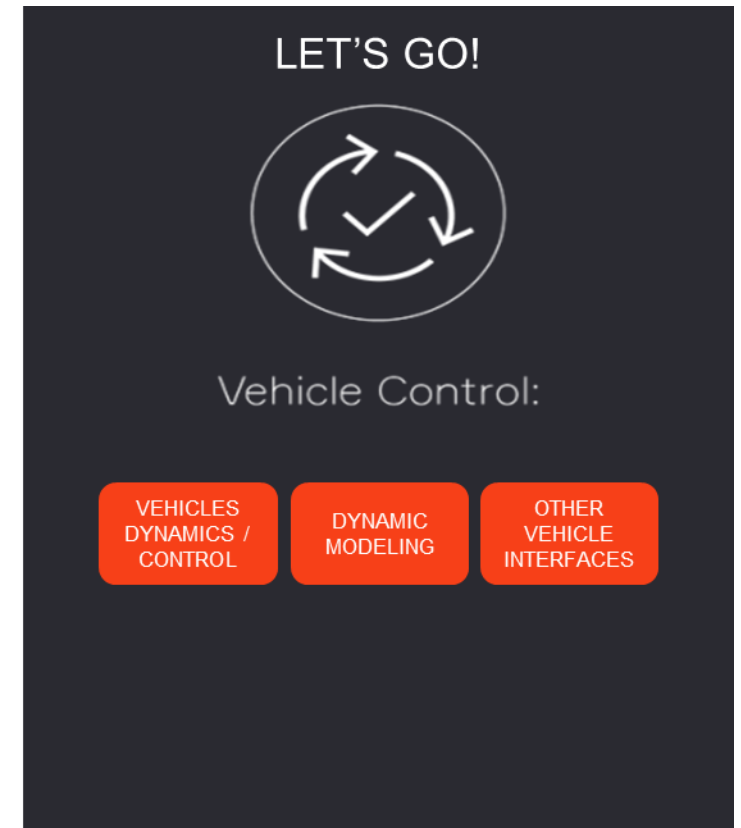
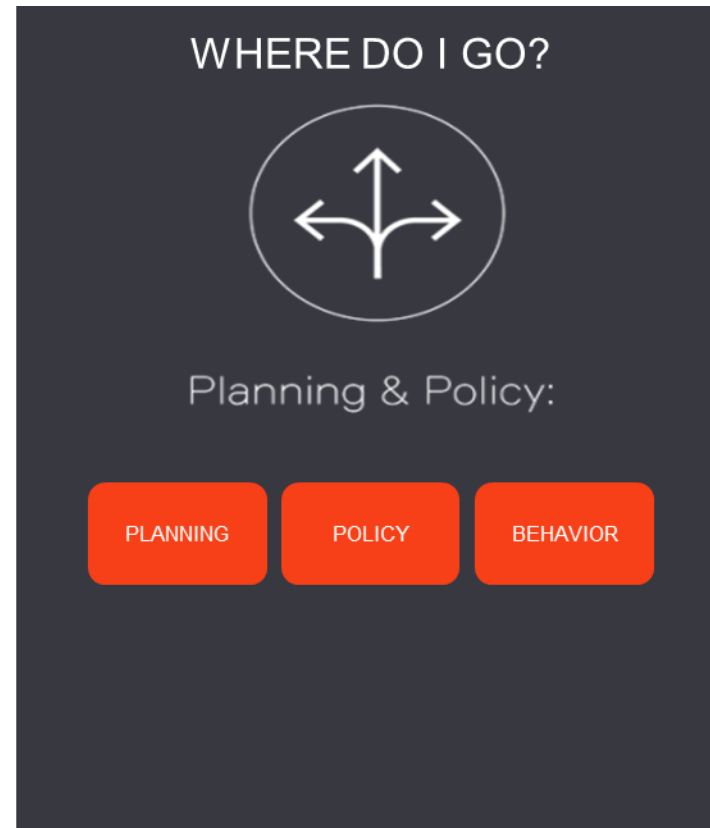
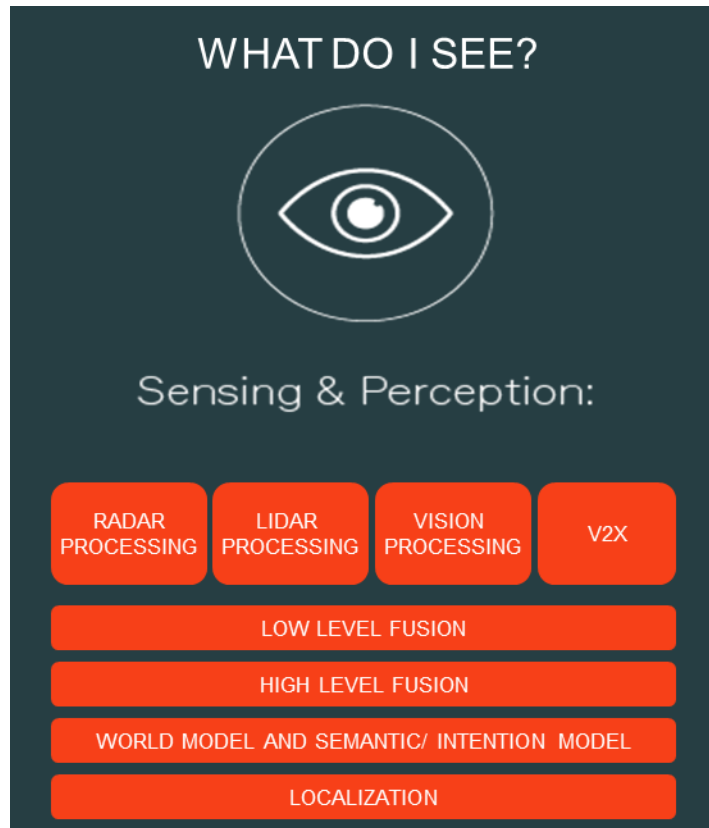
CONNECTIVITY



COMMERCIALIZABLE
SOLUTIONS FOR
AUTOMATED DRIVING

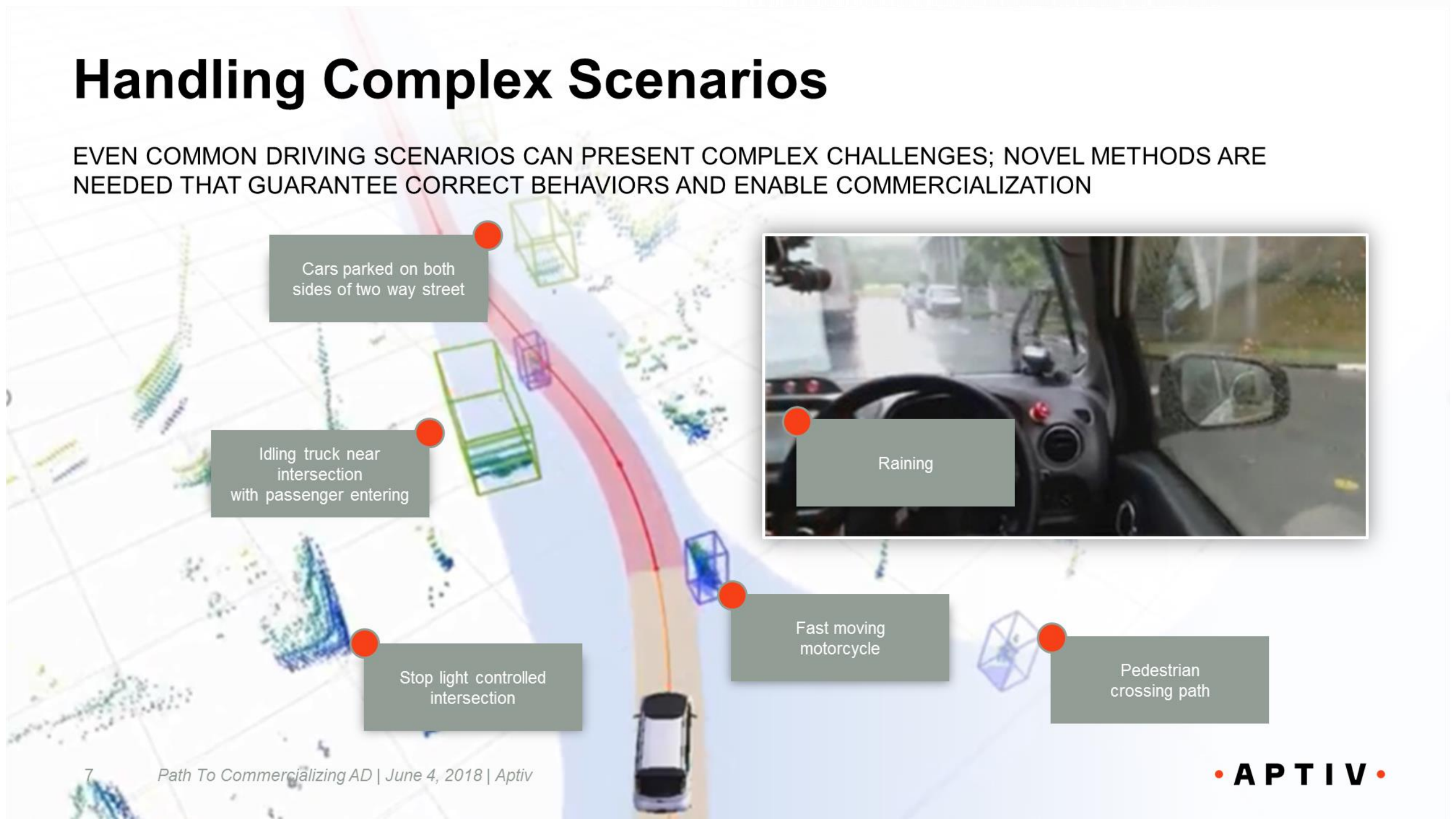
Aptiv Automated Driving Capabilities

UNMATCHED POSITION IN AUTOMATED DRIVING WITH DEEP SOFTWARE,
COMPUTING AND AUTOMOTIVE-GRADE INDUSTRIALIZATION CAPABILITIES



Handling Complex Scenarios

EVEN COMMON DRIVING SCENARIOS CAN PRESENT COMPLEX CHALLENGES; NOVEL METHODS ARE NEEDED THAT GUARANTEE CORRECT BEHAVIORS AND ENABLE COMMERCIALIZATION



Cars parked on both sides of two way street

Idling truck near intersection with passenger entering

Stop light controlled intersection



Raining

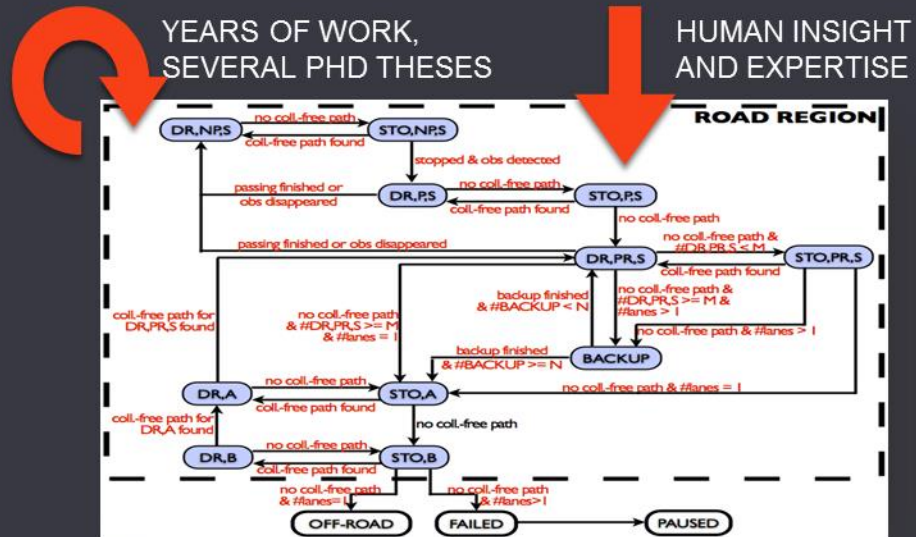
Fast moving motorcycle

Pedestrian crossing path

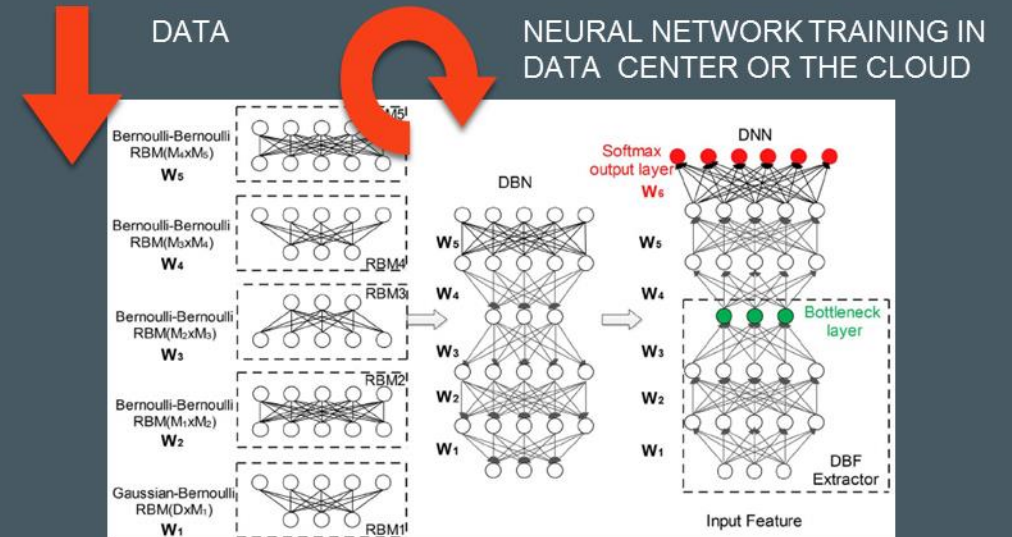
AD Software Development Approaches

BOTH RULES BASED AND END TO END ARTIFICIAL INTELLIGENCE APPROACHES FACE SIMILAR CHALLENGES...

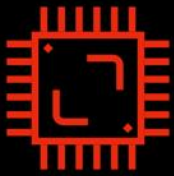
TRADITIONAL RULES BASED APPROACH



END TO END AI APPROACH



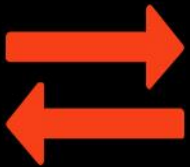
... AND SIMILAR LIMITATION: COMPLEXITY



Computational complexity is high for logic-based approaches, and **sample and model complexity** are high for learning-based approaches



Validation and **auditing** of either approach is dauntingly complex and/or not well understood



Updates and maintenance: Nature and impact of changes necessary to remove newly found defects are unclear and difficult to analyze



Aptiv's Approach: Structured AI

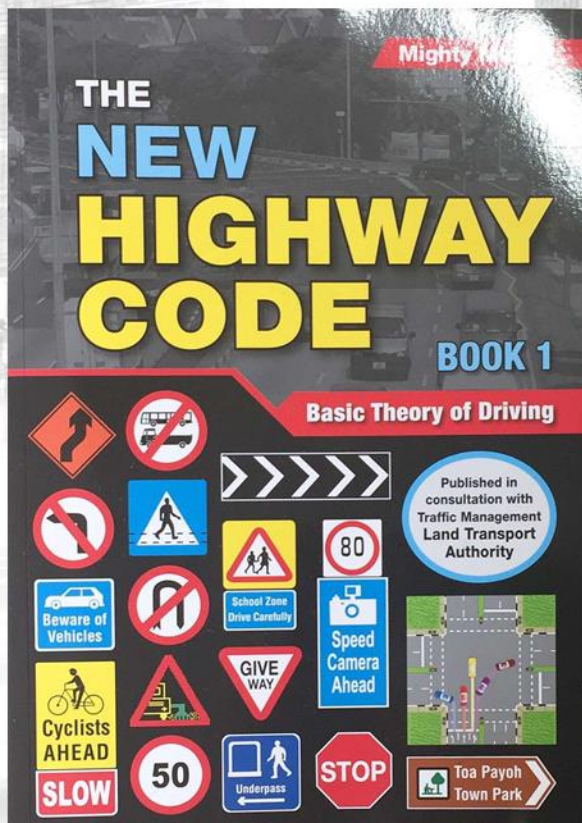
STRUCTURED ARTIFICIAL INTELLIGENCE: COMBINING THE BEST OF BOTH APPROACHES



STRUCTURED ARTIFICIAL INTELLIGENCE:
LEVERAGING TRADITIONAL RULES BASED
AND AI APPROACHES TO AUTOMATED
DRIVING SOFTWARE DEVELOPMENT

Structured AI Similar To How We Teach Humans

WE TEACH THEM THE “RULES OF THE ROAD”, BEST PRACTICES AND HOLD THEM ACCOUNTABLE



START WITH RULES...

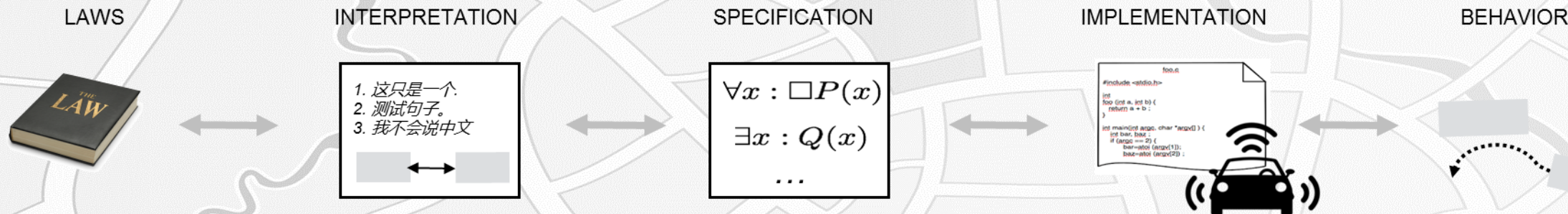
- Who can drive what / when / where, and who has the right of way
- At what speed, and in which direction
- Where can one park / stop
- How to use/interpret active and passive signals

... AND GIVE THEM PRACTICE TO LEARN

- Learn how to handle special situations through practice and observation
- We do not tell them exactly what to do in ALL situations, but we also do not trust “experience” exclusively

Benefits of Structured Artificial Intelligence

WE CAN GO FROM LAWS, TO SPECIFICATION, TO IMPLEMENTATION, TO BEHAVIOR AND BACK



APTIV'S APPROACH



EXPLAINABLE



AUDITABLE

- Easy to explain system of precisely expressed “rules”
 - Rules organized hierarchically with some rules more important than others
 - Potential rule violation is quantified and weighted with regard to same priority rule
- Easy for stakeholders to understand and give consent
- Easy to audit in all situations: Traceable, consistent, and expressive

Commercializing Automated Driving

APPLYING DECADES OF EXPERIENCE IN AUTOMOTIVE GRADE
SAFETY SOLUTIONS TO ADVANCE THE FUTURE OF MOBILITY

FOUNDATION

DEEP VEHICLE
SYSTEMS
KNOWLEDGE



CERTIFICATION
AND TESTING
EXPERTISE



30 YEARS OF
SAFETY
EXPERIENCE

DEVELOPMENT & TESTING

40,000+
SIMULATED
SCENARIOS

2 MILLION
AUTOMATED MILES
TRAVELED BY YEAR END

CERTIFIED
SAFETY
DRIVERS



INDUSTRIALIZATION

FAIL-SAFE
ARCHITECTURE

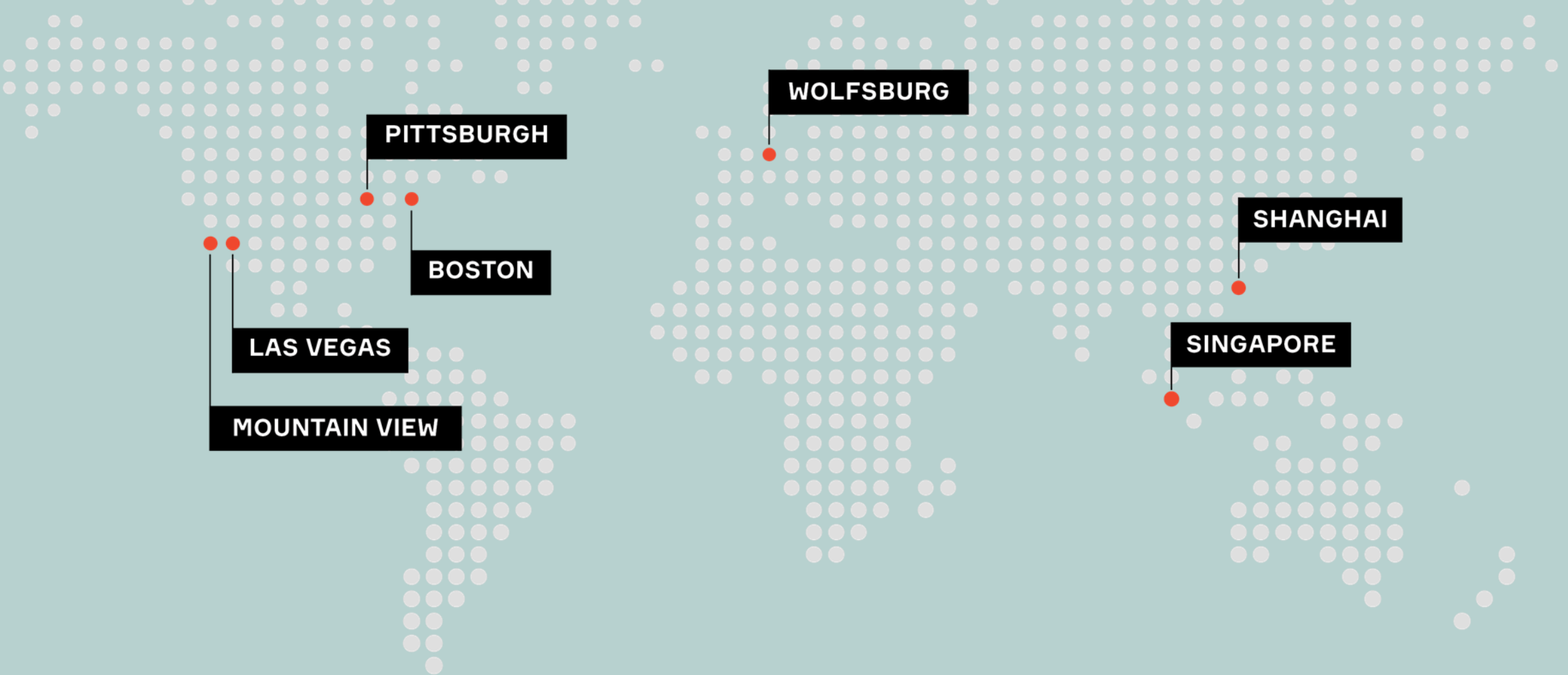


FAIL-SAFE
SOFTWARE



Making The Future Of Mobility Real

AUTOMATED DRIVING DEPLOYMENTS IN EVERY REGION



Expanding Las Vegas Presence

NEW AUTOMATED DRIVING TECH CENTER AND EXPANDED LYFT DEPLOYMENT



OPERATIONS AND COMMAND CENTER

Hub for operational support, while also enhancing development and testing



TECHNOLOGY SHOWCASE

Innovation and customer demonstration showcase



DEPLOYING 30 APTIV AUTOMATED VEHICLES ON LYFT NETWORK

Multi-year agreement represents clear step toward commercialization

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