

Forward-Looking Statements

Mobileye's business outlook, guidance and other statements in this presentation that are not statements of historical fact, including statements about our beliefs and expectations, are forward-looking statements and should be evaluated as such. Forward-looking statements include information concerning possible or assumed future results of operations, including descriptions of our business plan and strategies, and in particular include statements about anticipated future orders. These statements often include words such as "anticipate," "expect," "suggests," "plan," "believe," "intend," "estimates," "targets," "projects," "should," "could," "would," "may," "will," "forecast," or the negative of these terms, and other similar expressions, although not all forward-looking statements contain these words. We base these forward-looking statements or projections on our current expectations, plans and assumptions that we have made in light of our experience in the industry, as well as our perceptions of historical trends, current conditions, expected future developments and other factors we believe are appropriate under the circumstances and at such time. You should understand that these statements are not guarantees of performance or results. The forward-looking statements and projections are subject to and involve risks, uncertainties and assumptions and you should not place undue reliance on these forward-looking statements or projections. Although we believe that these forward-looking statements and projections are based on reasonable assumptions at the time they are made, you should be aware that many factors could affect our actual financial results or results of operations and could cause actual results to differ materially from those expressed in the forward-looking statements and projections. In particular, the estimates included herein of future orders are based on projections of future production volumes that were provided by our current and prospective customers at the time of sourcing the design wins for the models related to those design wins. For the purpose of these estimates, we estimated sales prices based on our management's estimates for the applicable product bundles and periods. Achieving design wins is not a guarantee of revenue, and our sales may not correlate with the achievement of additional design wins. Moreover, our pricing estimates are made at the time of a request for quotation by a customer (in the case of estimates related to contracted customers), so that worsening market or other conditions between the time of a request for quotation and an order for our solutions may require us to sell our solutions for a lower price than we initially expected. These estimates may deviate from actual production volumes and sale prices (which may be higher or lower than the estimates) and the amounts included for prospective but uncontracted production volumes may never be achieved. Accordingly, these estimations are subject to and involve risks, uncertainties and assumptions and you should not place undue reliance on these forward-looking statements or projections. Other important factors that may materially affect such forward-looking statements and projections include the following: future business, social and environmental performance, goals and measures; our anticipated growth prospects and trends in markets and industries relevant to our business; business and investment plans; expectations about our ability to maintain or enhance our leadership position in the markets in which we participate; future consumer demand and behavior; current or future products and technology, and the expected availability, specifications and benefits of such products and technology; development of regulatory frameworks for current and future technology; projected cost and pricing trends; future production capacity and product supply; potential future benefits and competitive advantages associated with our technologies and architecture and the data we have accumulated; the future purchase, use and availability of products, components and services supplied by third parties, including third-party IP and manufacturing services; uncertain events or assumptions, including statements relating to our estimated vehicle production and market opportunity, potential production volumes associated with design wins and other characterizations of future events or circumstances; future responses to and effects of the COVID-19 pandemic; adverse conditions in Israel, including as a result of war and geopolitical conflict, which may affect our operations and may limit our ability to produce and sell our solutions; any disruption in our operations by the obligations of our personnel to perform military service as a result of current or future military actions involving Israel; availability, uses, sufficiency and cost of capital and capital resources, including expected returns to stockholders such as dividends, and the expected timing of future dividends; tax- and accounting-related expectations. Detailed information regarding these and other factors that could affect Mobileye's business and results is included in Mobileye's SEC filings, including the company's Annual Report on Form 10-K for the year ended December 31, 2022, particularly in the section entitled "Item 1A. Risk Factors". Copies of these filings may be obtained by visiting our Investor Relations website at ir.mobileye.com or the SEC's website at www.sec.gov.

Now. Next. Beyond.

Mobileye's Annual CES Press Conference



Prof. Amnon Shashua, CEO
Jan. 2024

Mobileye's Product Vision:

Hands-On → Hands-off → Eyes-off → No-driver

ADAS

HANDS-ON / EYES-ON



- Basic safety features covered by front sector sensing
- Enhanced by cloud-enabled features

SuperVision™

HANDS-OFF / EYES-ON



- "Vision Zero" - comprehensive safety covered by full-surround sensing
- Hands Off, point-to-point navigation

Chauffeur™

EYES-OFF



- Giving back time to the driver
- REM™-enabled scalability with gradual ODD expansion

Drive™

NO DRIVER IN THE CAR



- Enables Driverless business models for optimal utilization of the vehicle as a resource
- Geo-fenced

Product Portfolio Proliferation of Design Wins to Date

ADAS



275M

Expected lifetime volume
of ADAS systems

SuperVision™



3.65M

Expected lifetime volume
of SuperVision systems

Chauffeur™



600K

Expected lifetime volume of
Chauffeur systems
All won in 2023

Drive™



50K

Autonomous MaaS Expected
lifetime volume
From 3 existing collaborations

Mobileye's system volumes for the periods presented represent estimated volumes based on projections of future production volumes that were provided by our current and prospective OEMs at the time of sourcing the design wins for the models related to those design wins. See the disclaimer under the heading "Forward-Looking Statements" on slide 1 of this presentation for important limitations applicable to these estimates.

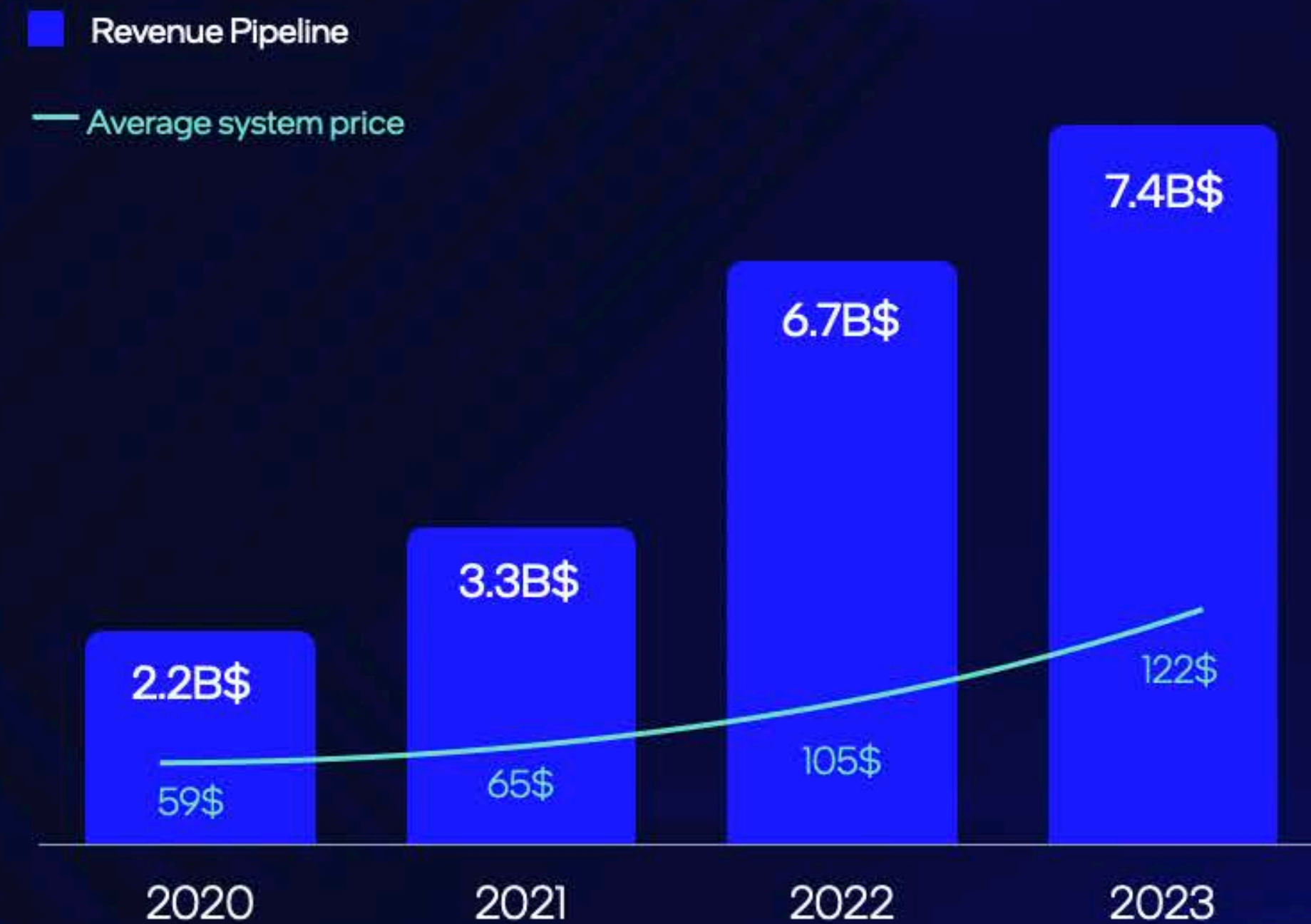
Mobileye in Numbers

\$7.4B

Estimated revenue pipeline of programs won in 2023

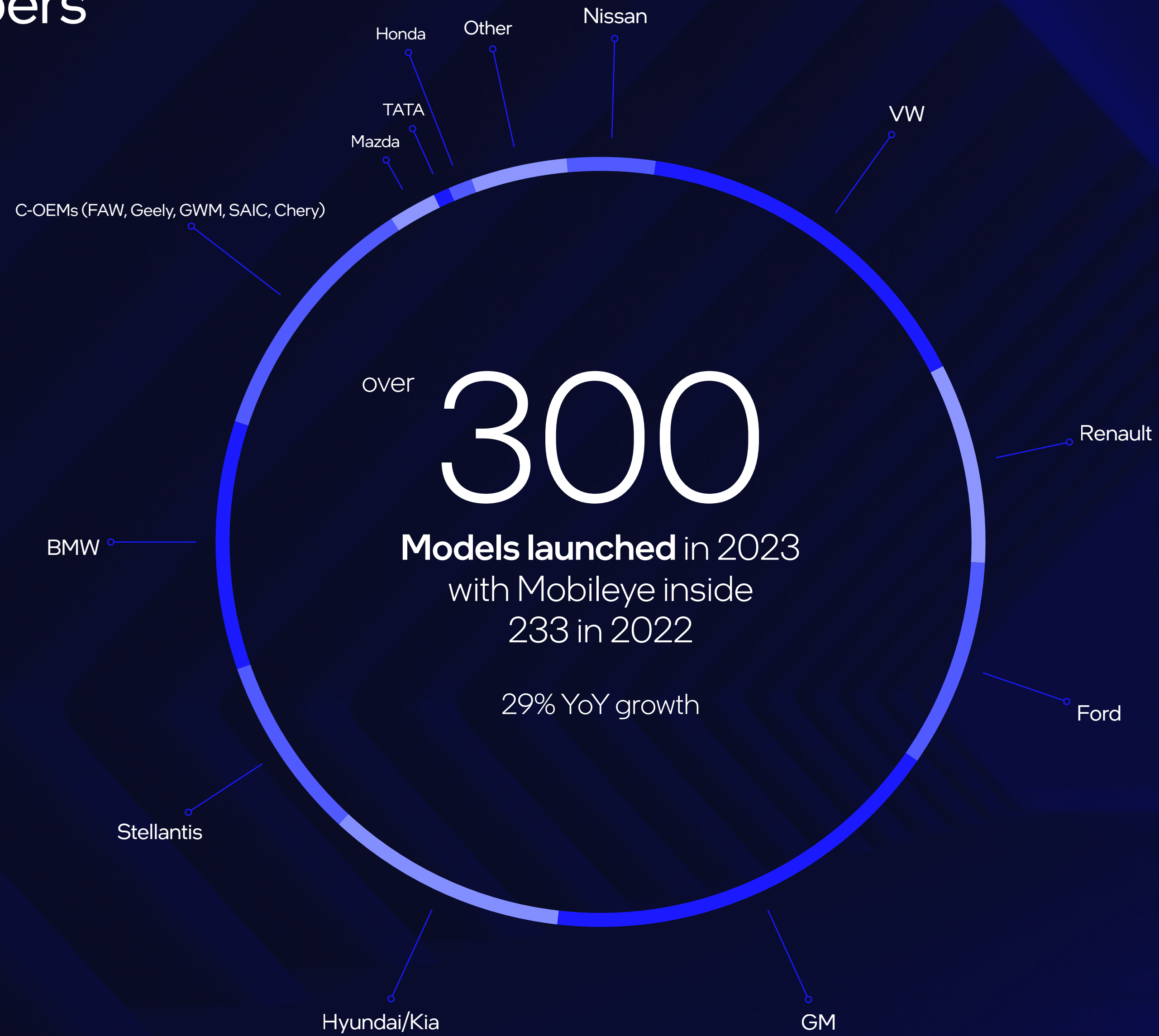
60.6M

Expected **Systems** volume pipeline of programs won in 2023



Mobileye's revenue for the periods presented represent estimated volumes based on projections of future production volumes that were provided by our current and prospective OEMs at the time of sourcing the design wins for the models related to those design wins. See the disclaimer under the heading "Forward-Looking Statements" on slide 1 of this presentation for important limitations applicable to these estimates.

Mobileye in Numbers



Mobileye's Base and Cloud-Enhanced ADAS Business in 2023

over

3M

Active REM™ harvesting vehicles worldwide
1.5M in North America

46.5M

REM™ license* lifetime volume of
programs won in 2023

* REM™ license is for one vehicle for one year. Mobileye's system volumes for the periods presented represent estimated volumes based on projections of future production volumes that were provided by our current and prospective OEMs at the time of sourcing the design wins for the models related to those design wins. See the disclaimer under the heading "Forward-Looking Statements" on slide 1 of this presentation for important limitations applicable to these estimates.



Chery to Become the First Automaker in China to Launch Mobileye's Cloud-Enhanced ADAS on the Exeed VX

Leveraging Mobileye's REM™, and will launch in Q1/24 in more than 30 cities, with additional cities added throughout the year.



Enables auto lane change and lane centering in challenging scenarios such as poor visibility, no lane marks, etc.



SuperVision™, Chauffeur™ and Drive™ Nomination With a Major Western OEM

17 models across multiple brands, geographies, powertrains
9 of which to be equipped with chauffeur





Mobileye and Mahindra & Mahindra expand collaboration to include SuperVision™

Introducing multiple solutions based on EyeQ™6 systems-on-a-chip and sensing and mapping software, including SuperVision



Deploying highly advanced automated driving technology in India to cater to the needs and demands of the rapidly growing Indian market



Strong SuperVision™ and Chauffeur™ Pipeline

OEM Group	Home Region	Brand	# of Models	Product	EV / ICE	Estimated launch date	Target market
GEELY	China	Zeekr	2	SV52	EV	In production	China, EU
	Europe	Polestar	1	SV52, CH63	EV	In production, 2026	China, EU, US
	China	Smart	1	SV52	EV	In production	China
	China	Volvo	1	SV52	EV	Q2/24	China
PORSCHE	Europe	Porsche	To be disclosed	SV62	EV / ICE	2026	China, EU, US
FAW GROUP	China	Hongqi	6	SV52, CH63	EV / ICE	e/ 2024, 25	China
Mahindra	India	Mahindra	To be disclosed	SV62	ICE	2026	Asia
Western OEM	Western	Multiple	17	SV62, CH63	EV / ICE	2026	China, EU, US

SuperVision™ Rollout In China

Over 160,000 vehicles on the road with point-to-point NOP

Availability across 22 cities in China with more to come later this year

Covering 100 cities by mid-year

Initial urban deployment by Q1, extensive deployment by mid-year



Key Technology Enablers

EyeQ®

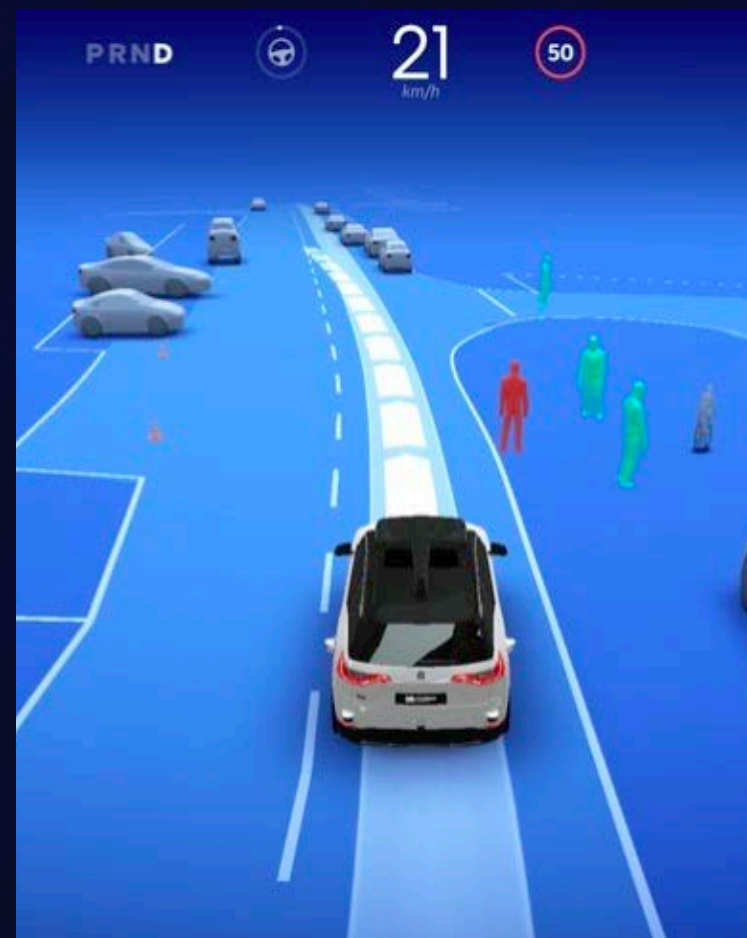
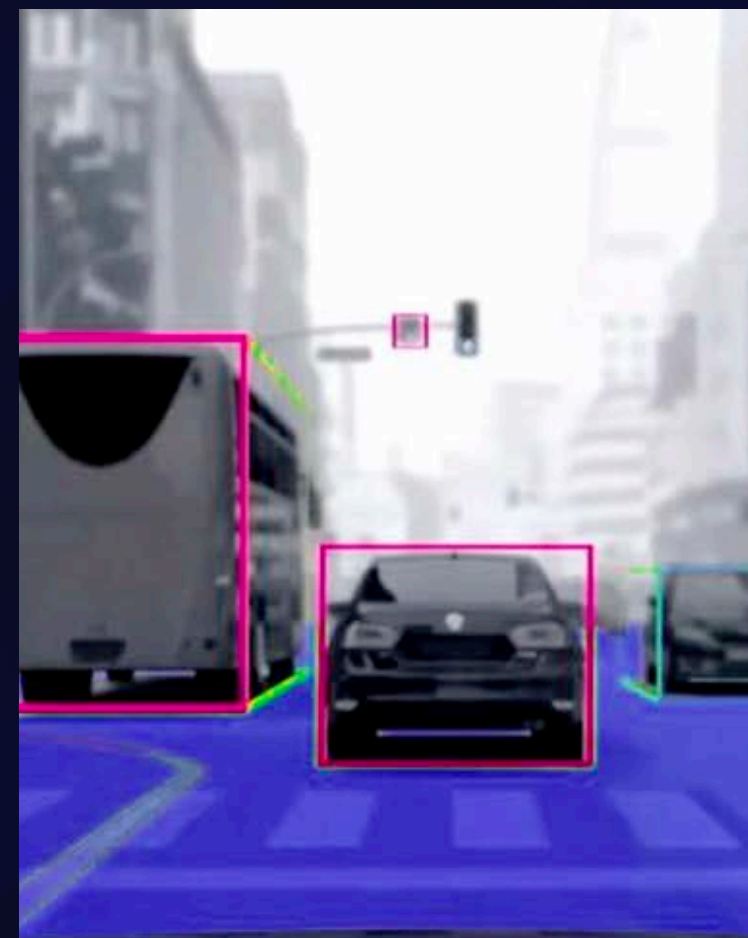
Computer Vision

REM™ Mapping

RSS Based Driving Policy

ECU & DXP

Active Sensors



Focus for this talk:

01

How to reach sufficient MTBF for an Eyes-off system?

02

How to reach scale while empowering the OEM to own the driving experience?

How to Reach Sufficient MTBF for Eyes-Off?

What Is the Optimal Way to Leverage Recent AI Breakthroughs for Autonomous Driving?

The End-to-End Approach in Autonomous Driving

Two types of end-to-end implementation:

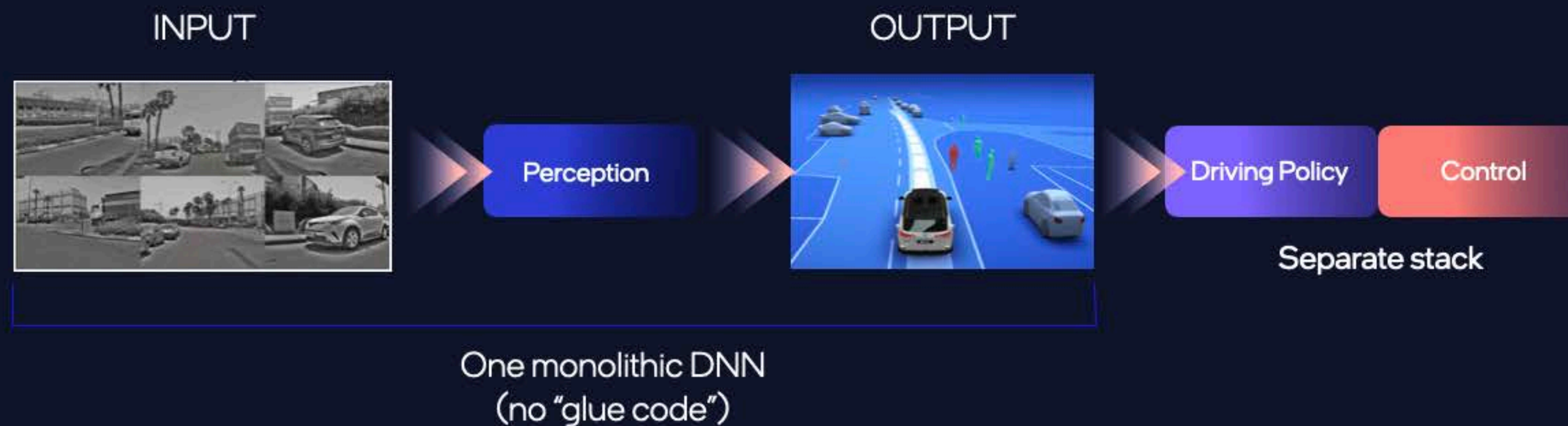
01

Full end-to-end:



02

End-to-end sensing:



The Essential Criteria for Evaluating Sufficiency

FULL END-TO-END:

END-TO-END SENSING:

Transparency and Explainability of decision-making (the safety vs. usefulness balance)

✗ A complete "black box"

✓ Decomposable driving policy

Controllability: the ability to craft the system according to regulatory requirements, driver/OEM preferences, etc.

✗ Steering the system towards satisfying specific regulatory requirements is almost impossible; non-customizable

✓ Decomposable driving policy

Performance: Extremely high Mean-Time-Between-Failures (MTBF)

✗ Can easily achieve a mildly large MTBF (few hours)
✗ How to reach 99.99999%? Unprecedented in data-driven ML applications (e.g. ChatGPT)

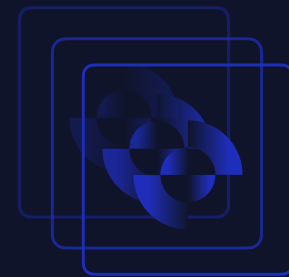
✗ Extremely high MTBF can be achieved only through redundancies
✗ E2E should be just one subsystem among other synergetic sensing components

End-to-End Perception Done Right

An end-to-end perception system must tackle 5 “multi” problems:



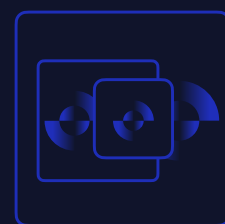
Multi-camera: the information from all the cameras should be combined together



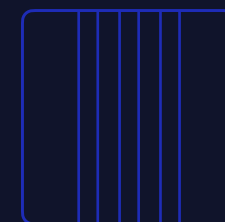
Multi-frame: information from different time stamp



Multi-objects: the system must handle all objects in the scene with spatiotemporal consistency



Multi-scale: handling different areas of the image with different resolutions



Multi-lanes (predictions, intentions): lane assignment of objects to predict possible future behaviors, set priorities, etc.

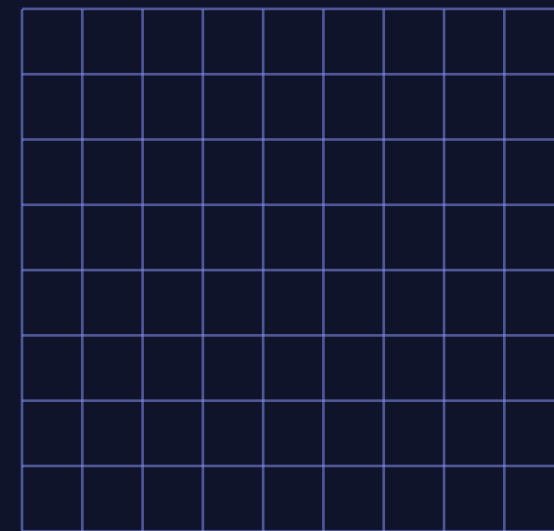
End-to-End Perception Done Right

The canonical Birds-eye view (BEV) approach aims at solving the first three “multis”

Surround raw images



BEV as the shared space



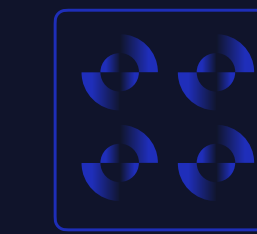
Sensing state + object list



Multi-camera



Multi-frame



Multi-objects



Multi-scale



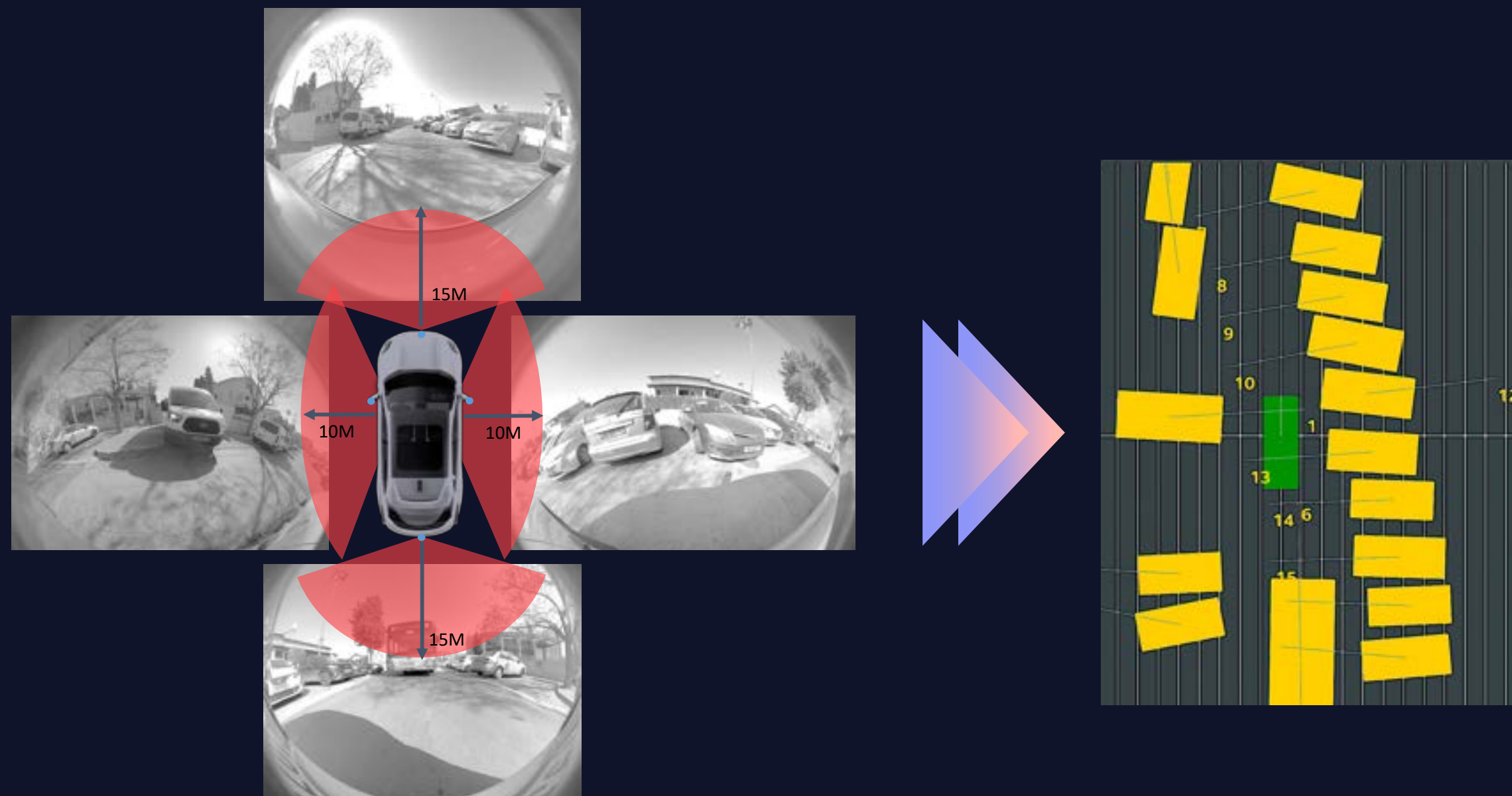
Multi-lanes

End-to-End Perception Done Right

For example:

Mobileye's TopView Net

End-to-end BEV network that utilizes only parking cameras



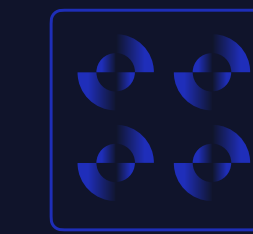
Integrated into SV52 as a redundant subsystem and also functions as the surround sensing backbone of our **5V5R+** hands-off for highways



Multi-camera



Multi-frame



Multi-objects



Multi-scale



Multi-lanes

End-to-End Perception Done Right

But is that enough?

Canonical BEV networks do not address the multi-scale aspect

Why?

In order to be useful, a detection range of $\sim 200\text{m}$ in 360° is required

This translates to unwieldy compute and memory requirements.

This problem is acknowledged in the academic literature, and as mitigation a list of papers use priors for sparse processing to work in multiple resolutions (e.g., BEVFormer, DeTR3D)

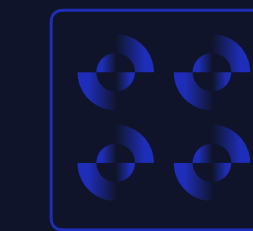
The question becomes what is the optimal way to obtain accurate priors?



Multi-camera



Multi-frame



Multi-objects



Multi-scale



Multi-lanes

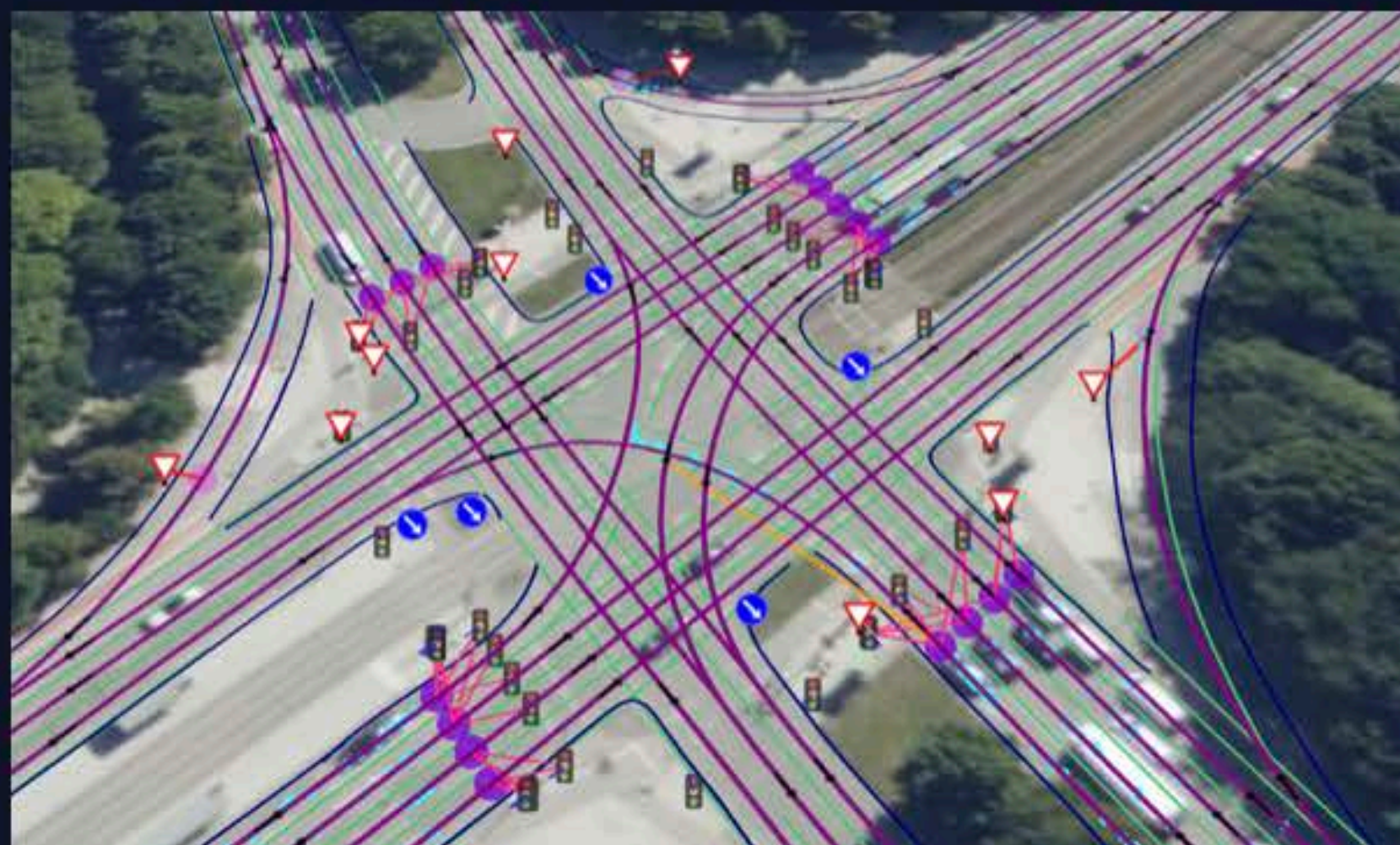
End-to-End Perception Done Right

But this is not the only problem:

Need to solve also “multi-lane”

The optimal solution — Use a map!

REM-based attention layer

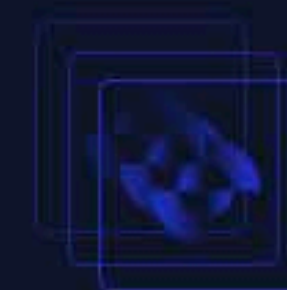


The ultimate prior

Lane assignment



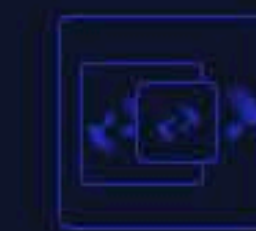
Multi-camera



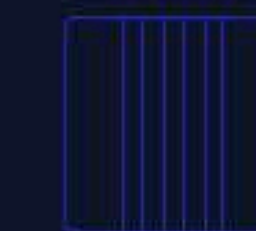
Multi-frame



Multi-objects



Multi-scale

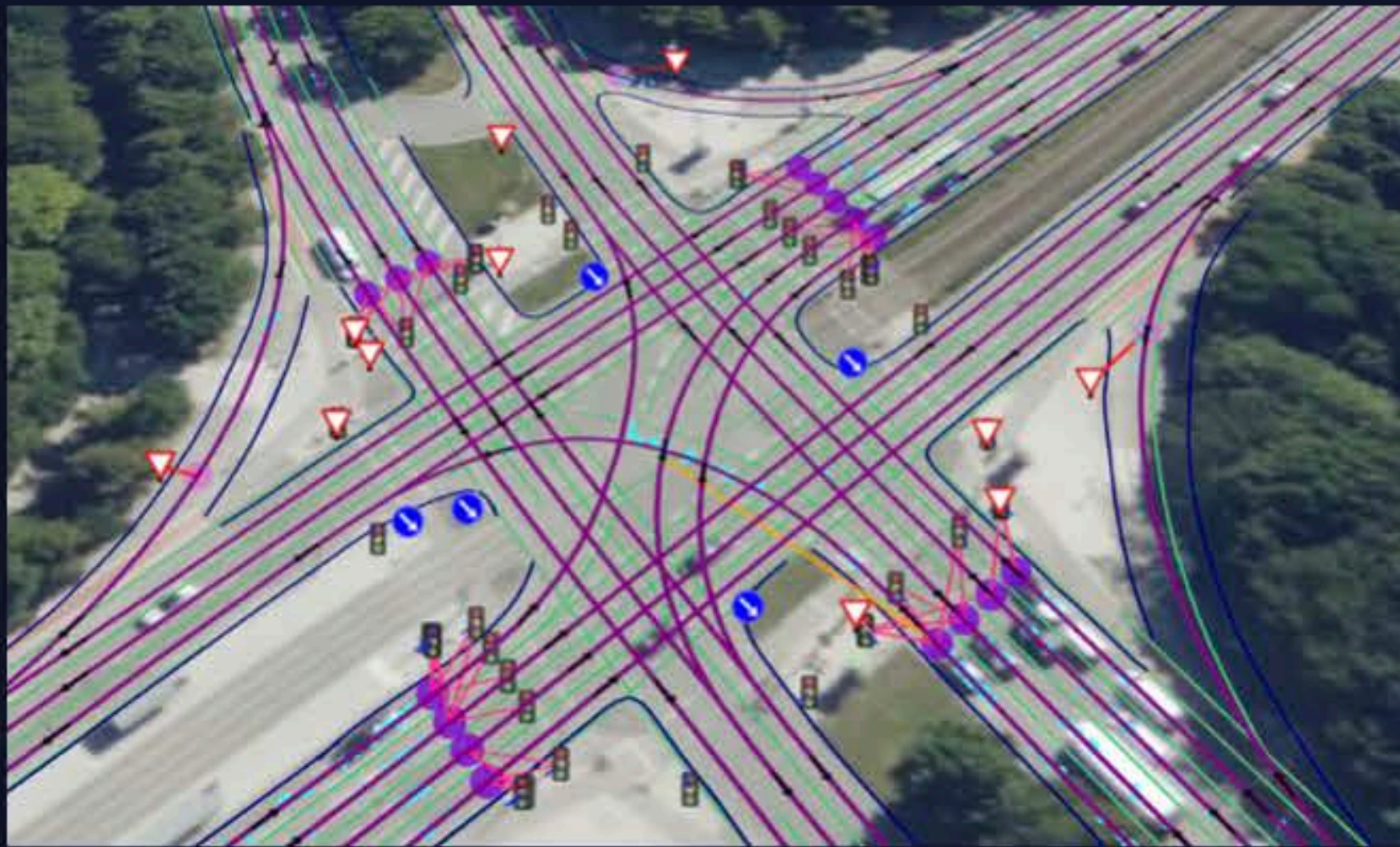


Multi-lanes

End-to-End Perception Done Right

Mobileye's approach- Map-based Sensing State (MBSS)

REM-based attention layer



The ultimate prior

Lane assignment

An end-to-end sensing system that solves all 5 "multi" problems



Running on EyeQ6H platforms



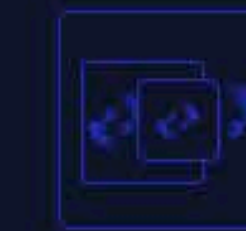
Multi-camera



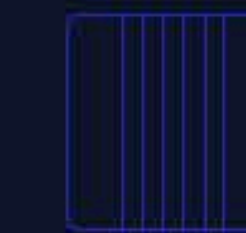
Multi-frame



Multi-objects

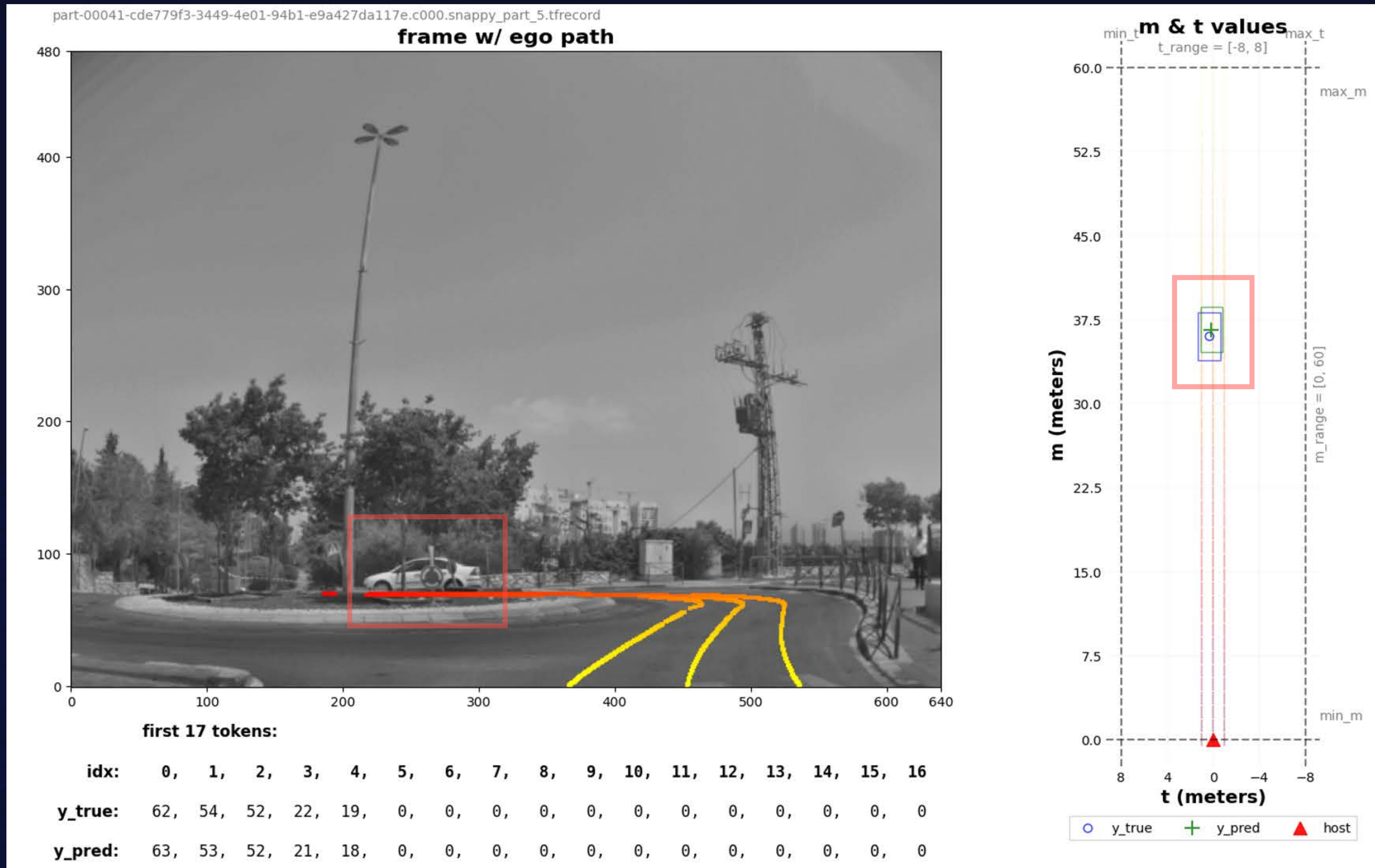


Multi-scale



Multi-lanes

Map helps us to improve accuracy on occluded objects Using the geometry and semantic data from the map



Accurately Positioning Occluded Objects

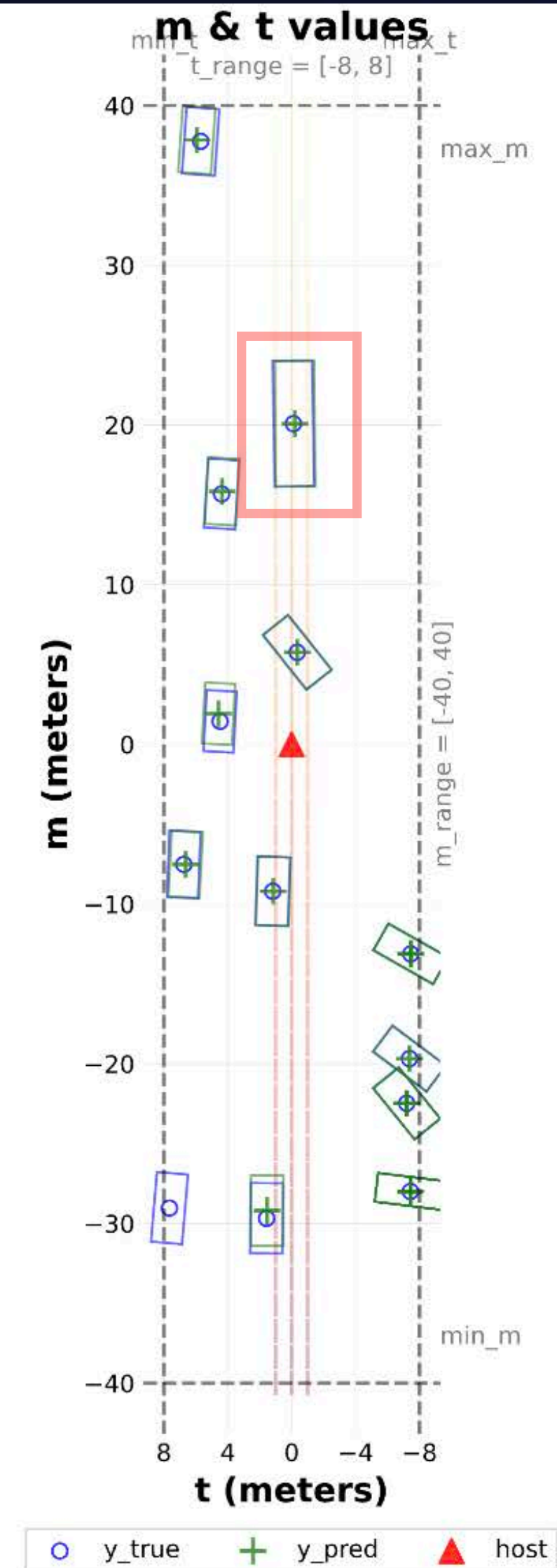
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surround frames w/ ego path

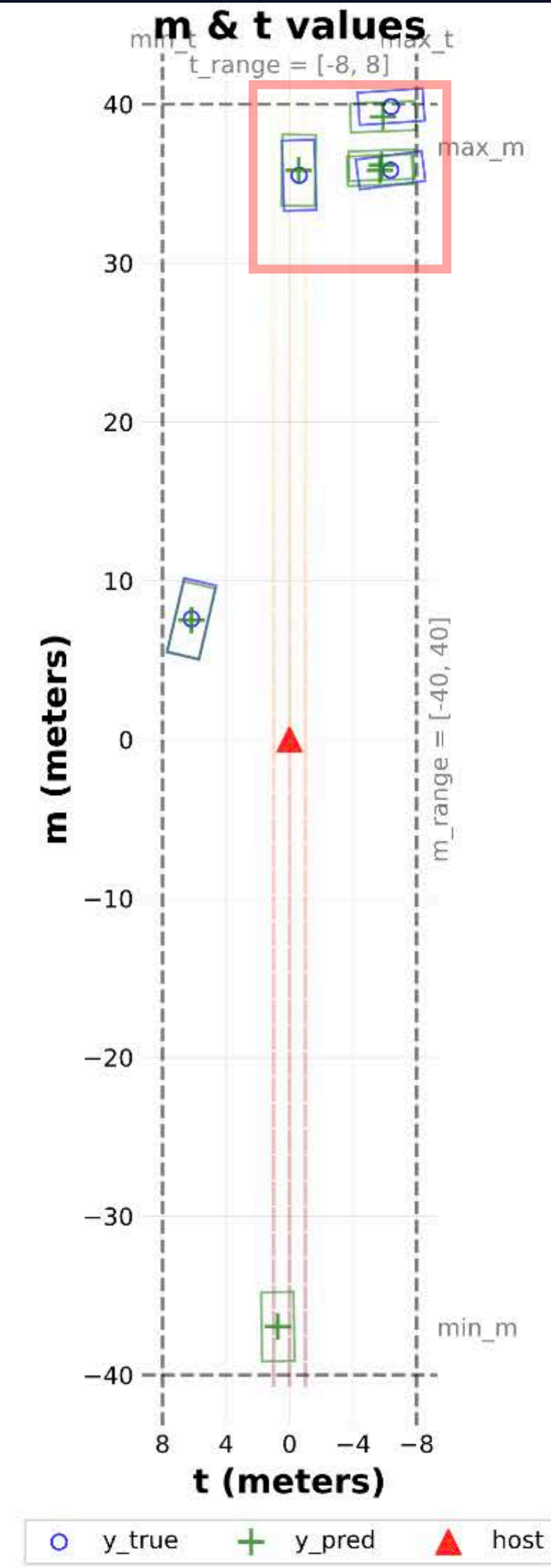


first 17 tokens: (out of 179)

idx:	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
y_true:	221	52	587	209	167	974	858	886	207	169	387	576	498	206	174	338	36
y_pred:	574	480	586	203	177	256	41	618	205	169	338	36	634	194	174	387	574



surround frames w/ ego path

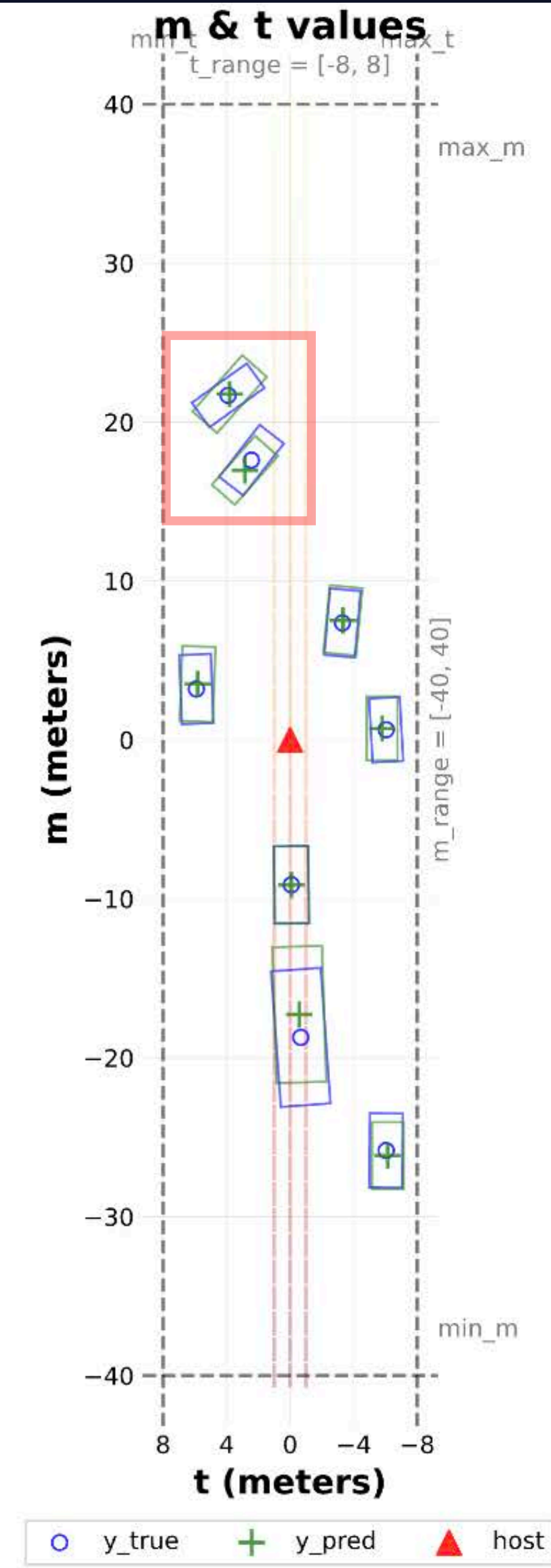


The map helps with lateral uncertainty of far-range objects (lateral position is more important than longitudinal)

first 17 tokens: (out of 179)

idx:	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
y_true:	1000	102	314	206	166	946	464	506	206	179	597	888	866	208	193	950	104
y_pred:	596	888	866	208	184	954	140	310	188	166	950	466	500	213	181	950	146

surround frames w/ ego path

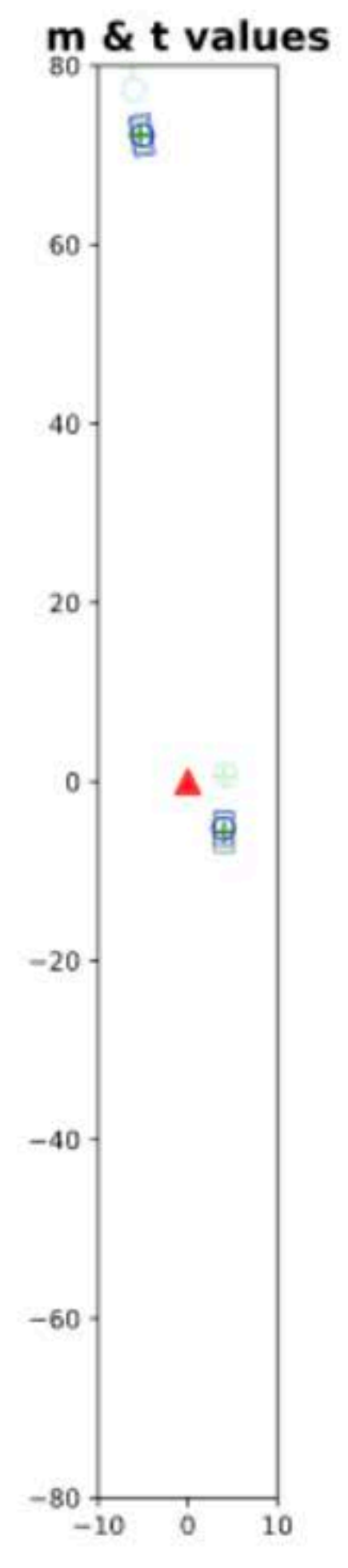
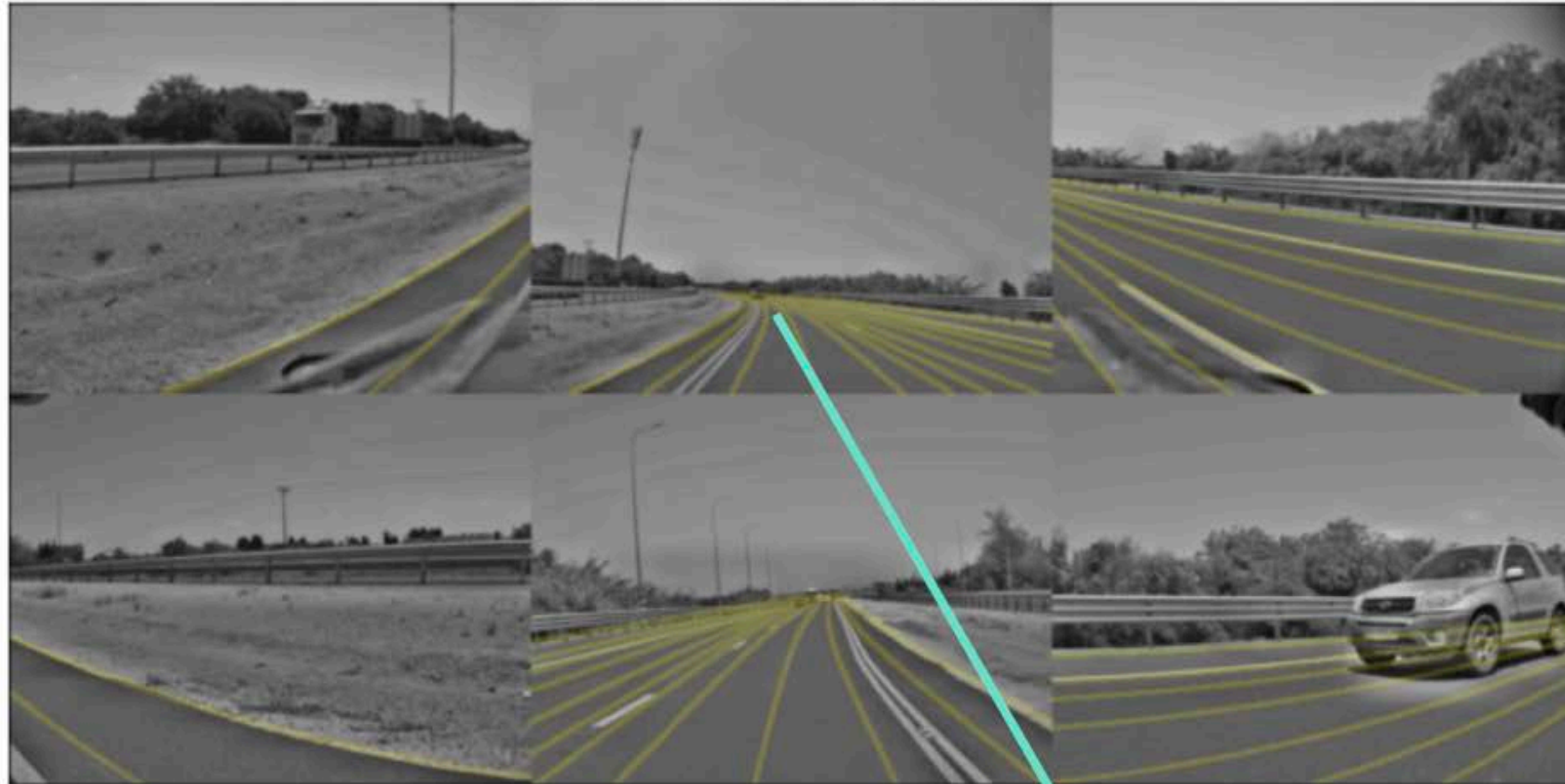


The map helps with lateral uncertainty of far-range objects (lateral position is more important than longitudinal)

first 17 tokens: (out of 179)

idx:	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
y_true:	594	296	491	195	170	510	124	509	195	163	542	871	114	201	176	179	124
y_pred:	596	294	490	208	172	388	497	504	218	196	546	866	890	210	191	511	140

surround frames w/ ego path



first 17 tokens: (out of 180)

idx: 0, 1, 2, 3, 4, 5, 6, 7, 8,

tokens: 1, 99, 212, 152, 151, 49, 100, 215, 200



How to Reach Sufficient MTBF for Eyes-Off?

Is End-to-End Perception Sufficient?

Redundancy Is Key to Robustness

4 "axes" of redundancy in Mobileye's sensing architecture:

Camera



SENSORS

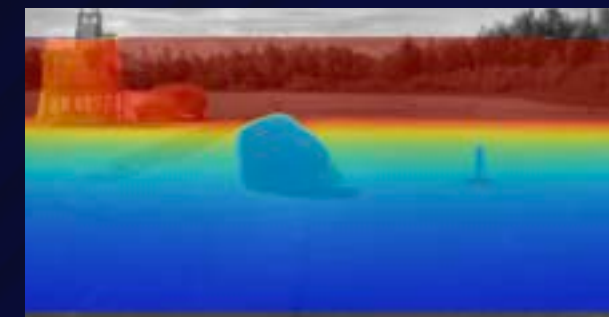


Radar/ Lidar

Appearance-based

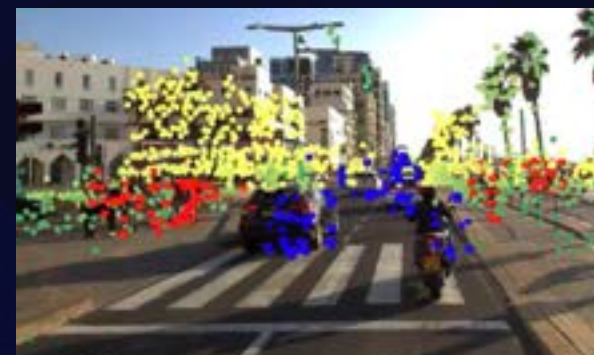


CV ALGORITHMS



Geometry-based

Learning



SENSING ALGORITHMS
(CV+R/L)



Model-based

Decomposable



SENSING ARCHITECTURE



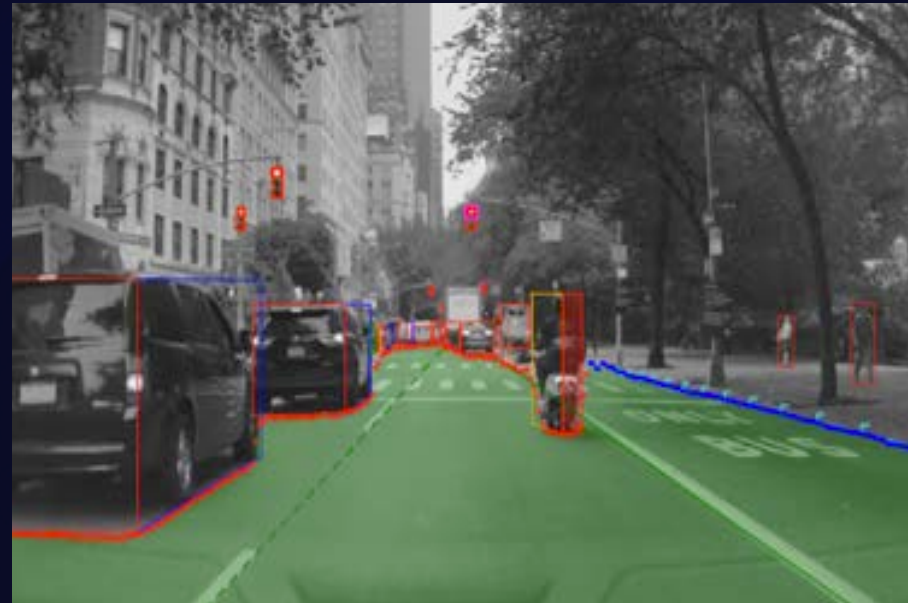
End-to-end

Redundancy Is Key to Robustness

Why multiple approaches for sensing are required?

For example:

Decomposable



Model-based sensing excels at solving edge cases for safety

SYNERGIES

End-to-end



End-to-end sensing excels at common driving scenarios; best for comfort applications

Mobileye's Advanced SOC Portfolio

EyeQ® 5H



7nm
16 TOPS (int 8)
27W (max)
In production

EyeQ® 6H



7nm
34 TOPS (int 8)
33W (max)
Sampled, SOP in 2025

EyeQ® 7H



5nm
67 TOPS (int 8)
60W (max)
Samples Q2/25, SOP in 2027

Mobileye's Compute and Power Efficiency

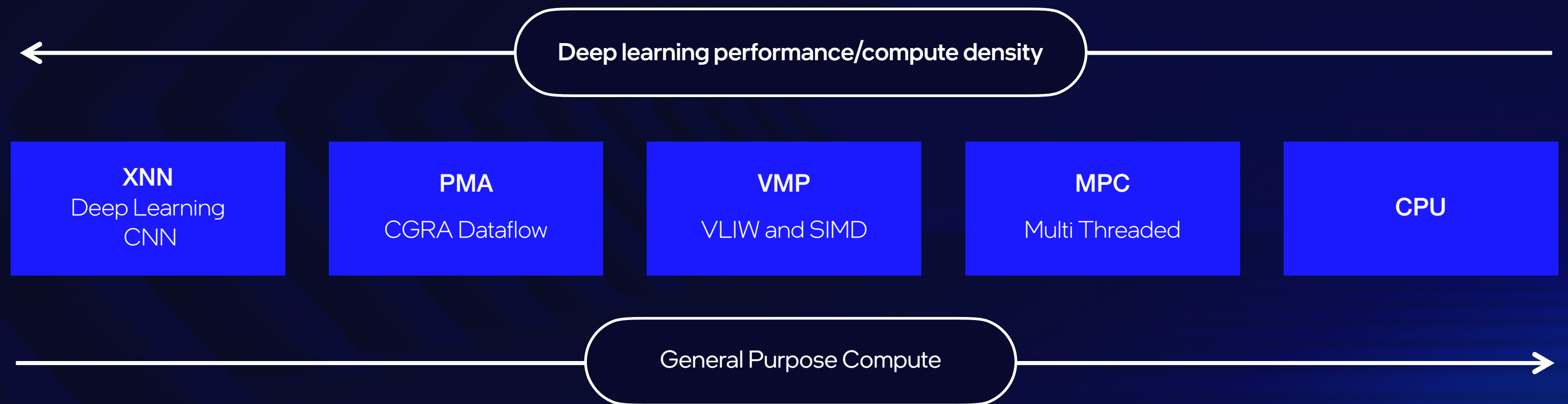
10x

Superior performance in x10 leaner compute resources results in cost & power efficiencies

Test Models	Competitor 1	Competitor 2	Competitor 3	001
Compute	2*Orin X	2*Orin X	4*Orin X	2*EQ5H
Compute TOPs	508TOPS	508TOPS	1016TOPS	32TOPs
Compute power consumption (peak)	150W	150W	300W	54W

Efficient Design & Heterogeneous Compute Architecture

- Hardware-software co-designed accelerators enable high performance, requiring fewer TOPS and consuming less power
- A diverse set of compute resources to optimally cover the wide range of compute tasks



Mobileye's Next Generation Imaging Radars



BSRC (corner radar)

BSR (Front LRR/ MRR)

BSR / BSRC

Support high speeds, dense traffic, arterial, rural and urban scenarios

Short range capabilities designed to replace Short-Range Lidars and enable autonomous parking scenarios

SOP 2025

Imaging Radars solution comparison

	Mobileye's BSR/BSRC	Competitor 1	Competitor 2
Range	0-350m	0-350m	0-300m
Dynamic range	100dB	<e60dB	<e60dB
Azimuth Sidelobe	40dBc	e25~30dBc	e25~30dBc
Multipath Rejection	Yes	No / Limited	No / Limited
Short range FOV	170°x100°	100°x30°	120°x30°
Dynamic mode switch	Ultra SRR/SRR → MRR → LRR	No	No
Detections	500 / 200KPPs	Est. <150 / 40KPPs	Est. <150 / 40KPPs

MRR Mode

Pallet located 1m next to the
Guardrail

Detection @ 237m



Key Technology Enablers

EyeQ®

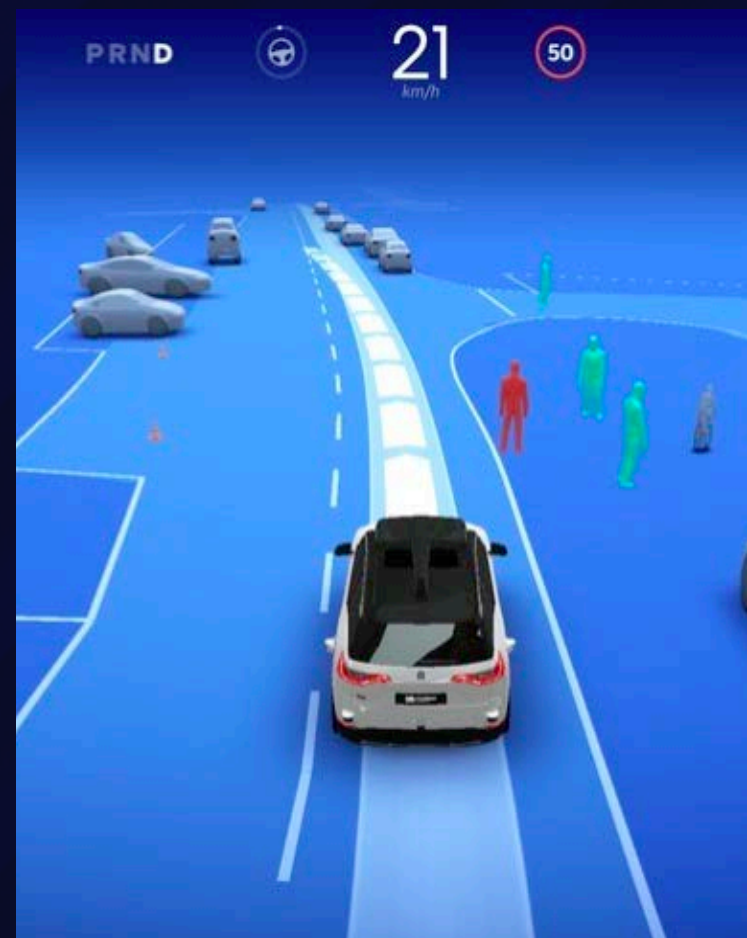
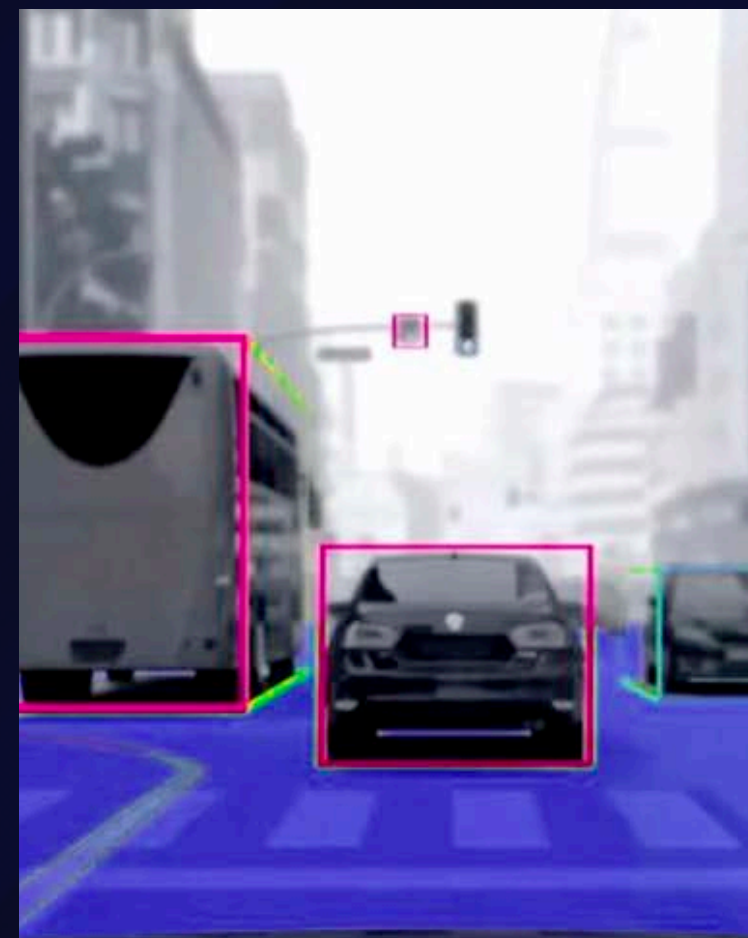
Computer Vision

REM™ Mapping

RSS Based Driving Policy

ECU & DXP

Active Sensors



Focus for this talk:

01

How to reach sufficient MTBF for an Eyes-off system?

02

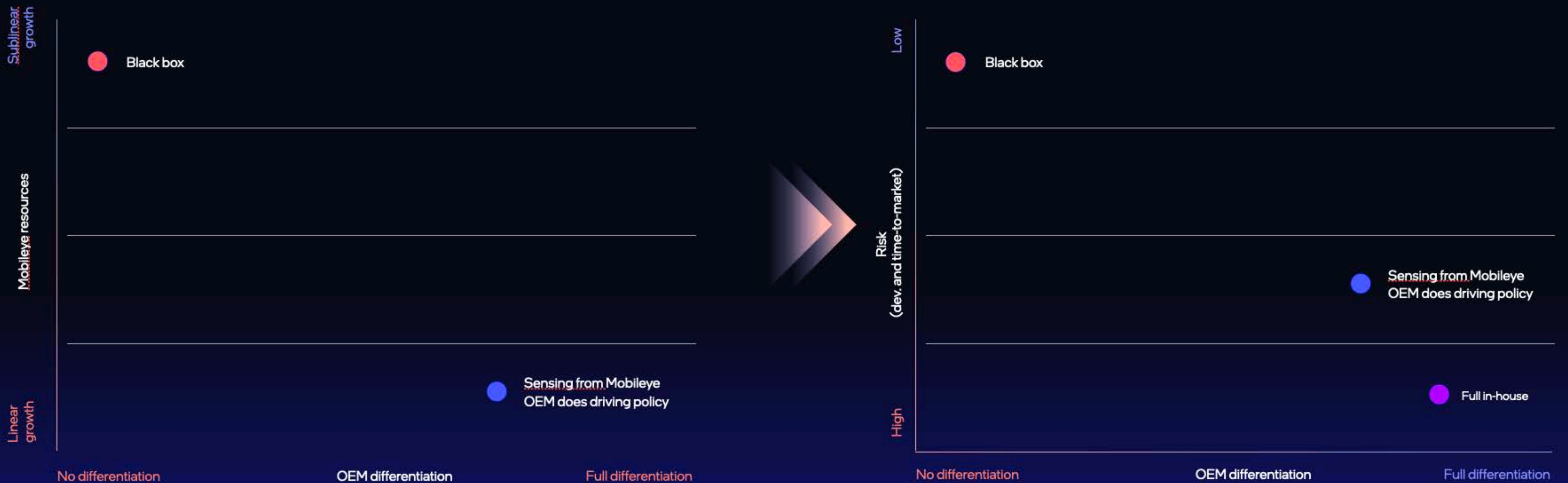
How to reach scale while empowering the OEM to own the driving experience?

How to Reach Scale — a Refined Observation

01 Mobileye wants to achieve scale- serving many OEMs while maintaining sublinear resource growth

02 OEMs want to own differentiating elements of the product

Most collaboration models face a clash between these two goals:

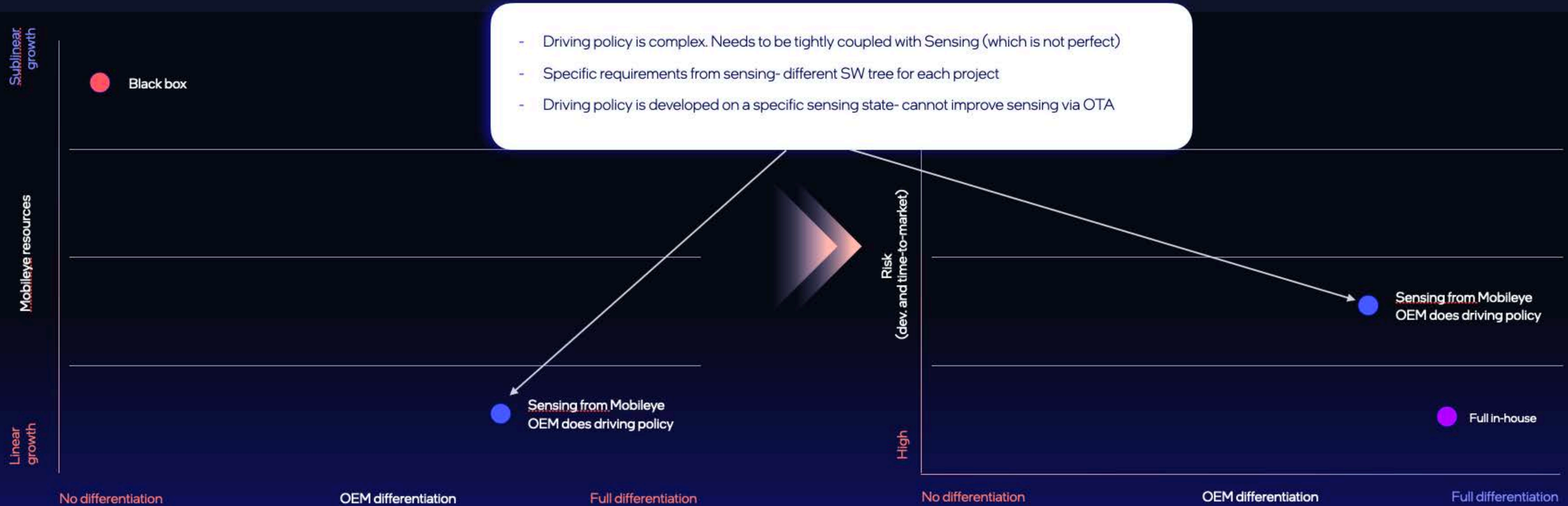


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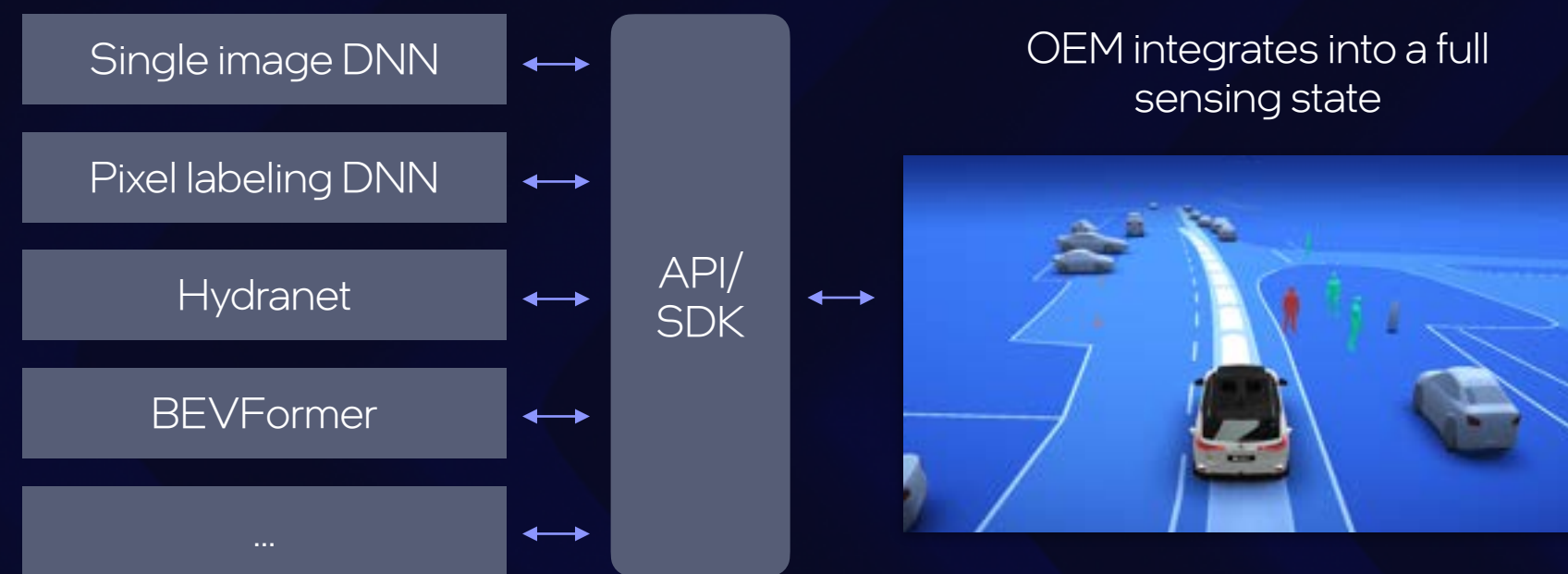
How to Reach Scale — a Refined Observation

A **platform-based** collaboration model is a viable path for OEMs to balance the tension between the need to differentiate and development/ time-to-market risks:

Possible platform approaches:

01 SDK

API calls to sensing components. Driving Policy is done by the OEM



The problem:

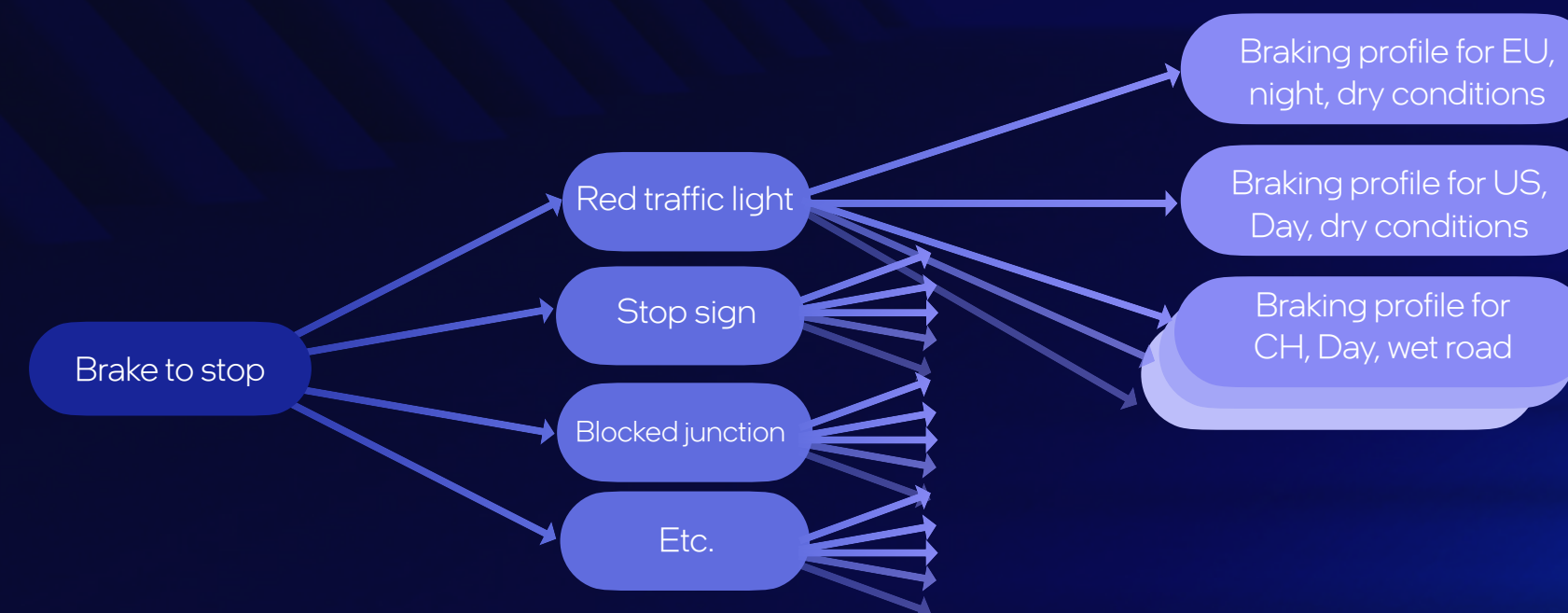
- Every element on its own is often not perfect therefore, integrating everything into one complete and robust system is extremely hard

02 SYSTEM WITH TUNABLE DRIVING POLICY KNOBS

Driving policy code with parameters where the OEM controls/ tweaks the parameters

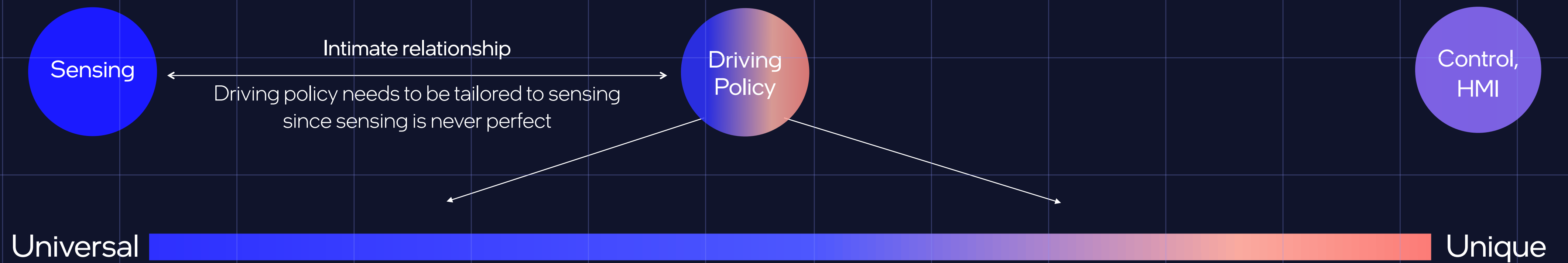
The problem:

- Parameter set may vary from OEM to OEM and will necessitate rewriting the driving policy for every OEM
- Limiting the parameters might help, but then the ability to customize is jeopardized
- A certain set of parameters is required for every possible state (country, weather, etc.); implementation is unwieldy- **explodes exponentially**



Key for Designing a Good Solution

Separating universal from the unique



Key for Designing a Good Solution

Separating universal from the unique

Universal (OEM-agnostic)

Facts

- Perception of the surroundings (objects, road users, etc.)

Semi-facts (predicting the future)

- Intentions of road users

Uncertainties

- Lack of visibility, occlusions, error bars, etc.

Optimization

- Efficient data structures (e.g., "find all lanes at distance d from a query point")
- Optimization engines (e.g., "given desired offset per each road user, and lateral limiters, optimize a trajectory")

Unique (OEM-specific)

Discrete driving decisions

- Lane changes, overtakes, yield or take-way, negotiation, etc.

Continuous longitudinal planning

- Acceleration and braking profiles/ jerk limiters
- Margins (keeping distance, headway, etc.)

Lateral planning

- Lateral acceleration and velocity
- Offset parameters per road user

Control

HMI

Breaking Down Driving Policy into Universal and Unique

The driving policy sequence:

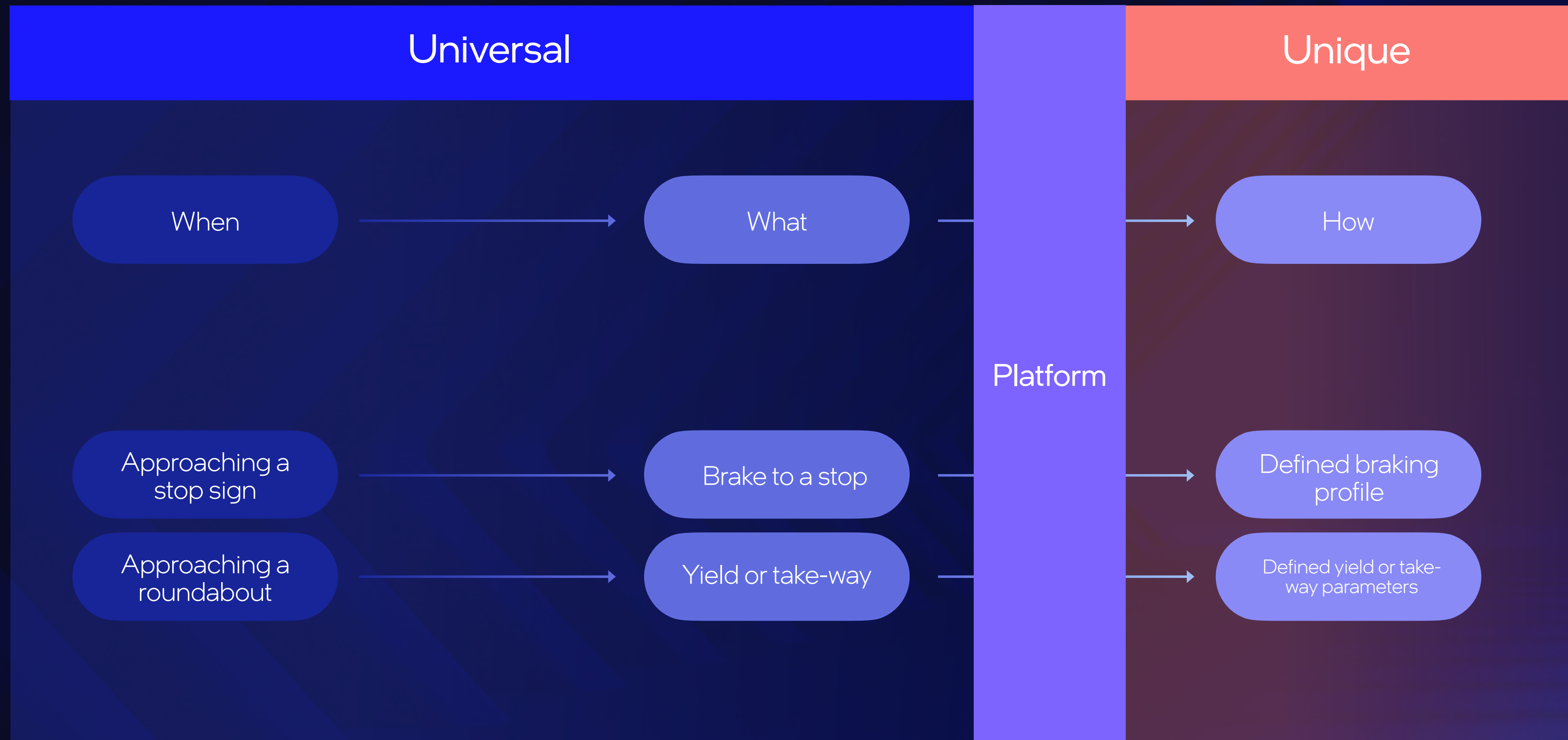


For example:

Breaking Down Driving Policy into Universal and Unique

The driving policy sequence:

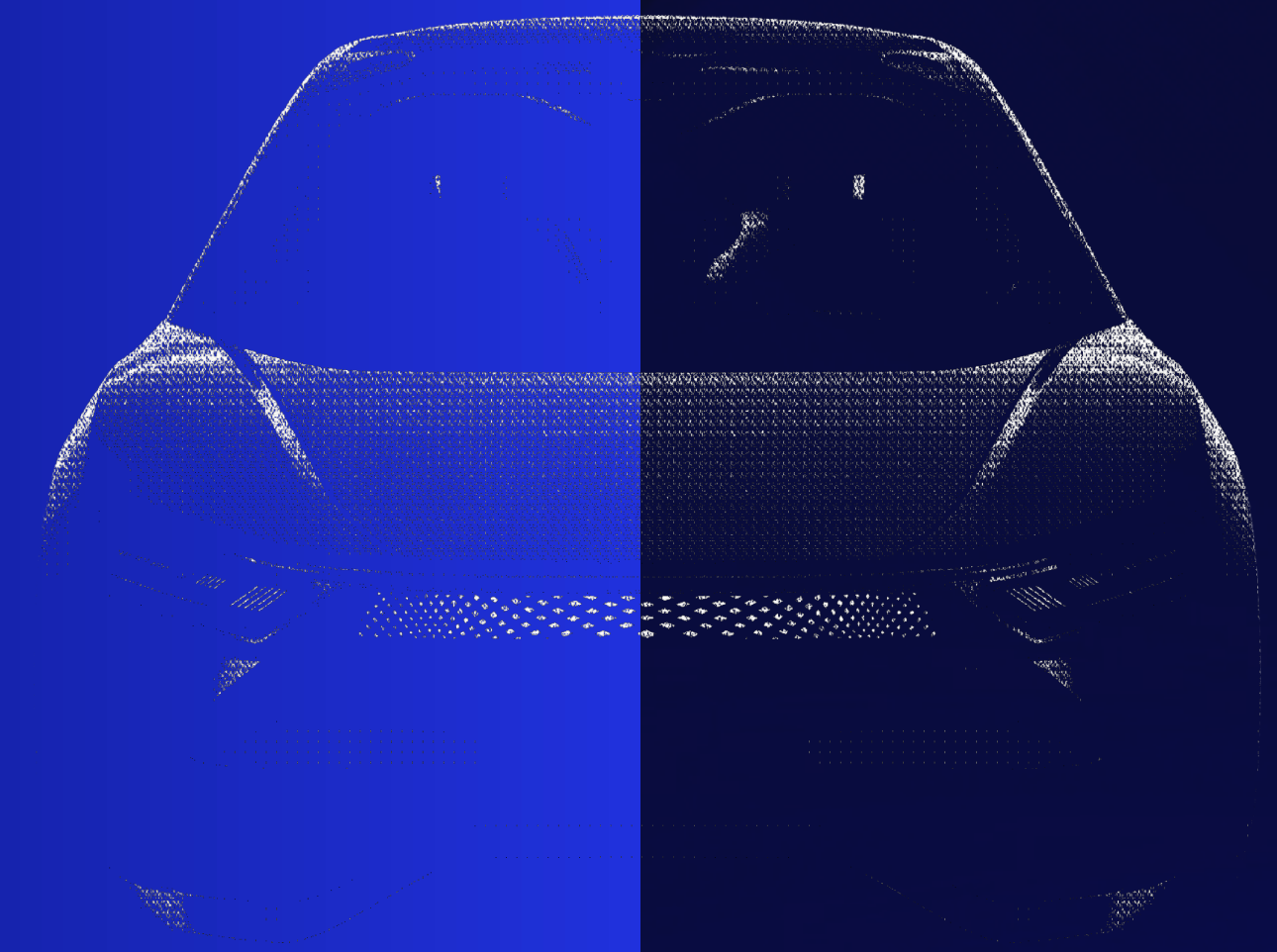
For example:



Introducing DXP

Mobileye's Driving Experience Platform

Mobileye's DXP — OS, tools, and abstractions allow the OEM to code and control every unique element in the system that affects the driving experience without needing to reinvent universal elements that are highly complex and risky to develop.



Summary

- Mobileye's product vision is becoming a reality
- How to reach sufficient MTBF for an Eyes-off system?
 - Through redundancy
 - End-to-end done right
- How to reach scale while empowering the OEM to own the driving experience?
 - Introducing Mobileye's DXP

ADAS

HANDS-ON / EYES-ON



SuperVision™

HANDS-OFF / EYES-ON



Chauffeur™

EYES-OFF



Drive™

NO DRIVER IN THE CAR





Thank you.