13 November, 2018 SIP-Workshop; session "Reginal activities & FOTs"

How to introduce CAV ?
What kind of CAV ?
to be accepted in the Society

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(also assigned as the leader of the "Next Generation Urban Transport WG" of SIP-adus)

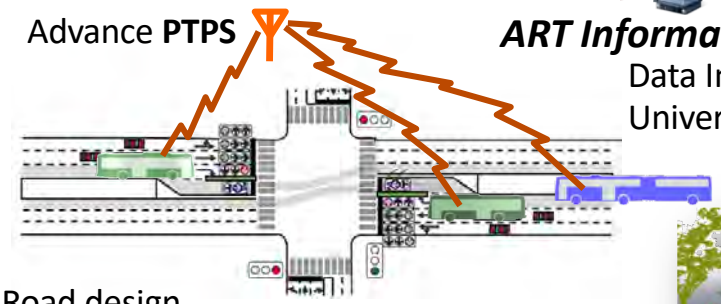
Integrated sustainable multi-modal-transport systems

INSIDE TOWN Urban/Metropolitan area

Enhancement of quality & levels of services of surface **PT** → **ART**

Transfer supports

Advance **PTPS**



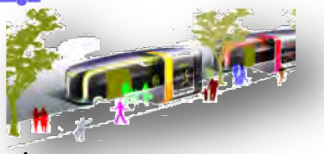
ART Information Center

Data Integration

Universal info. provision

Road design

Re-allocation of roadways



Quick/smooth stop & start

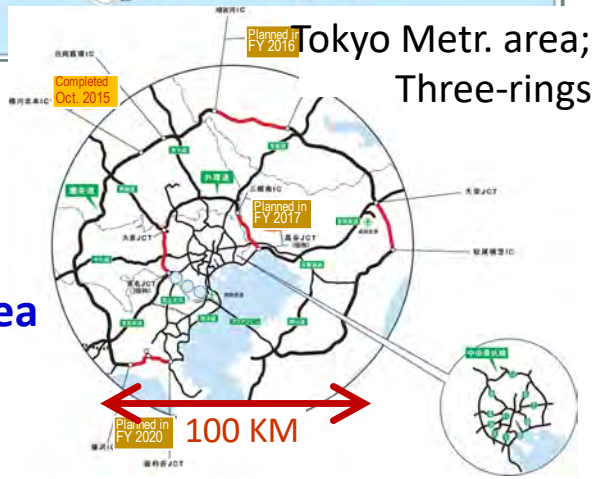
OUTSIDE TOWN - Safe & High-speed/fidelity enhancement on Motorways

Air transport

Water transport

Railway system
High-speed rail

Urban surface
LRT
bus, taxi



Tokyo Metr. area;
Three-rings

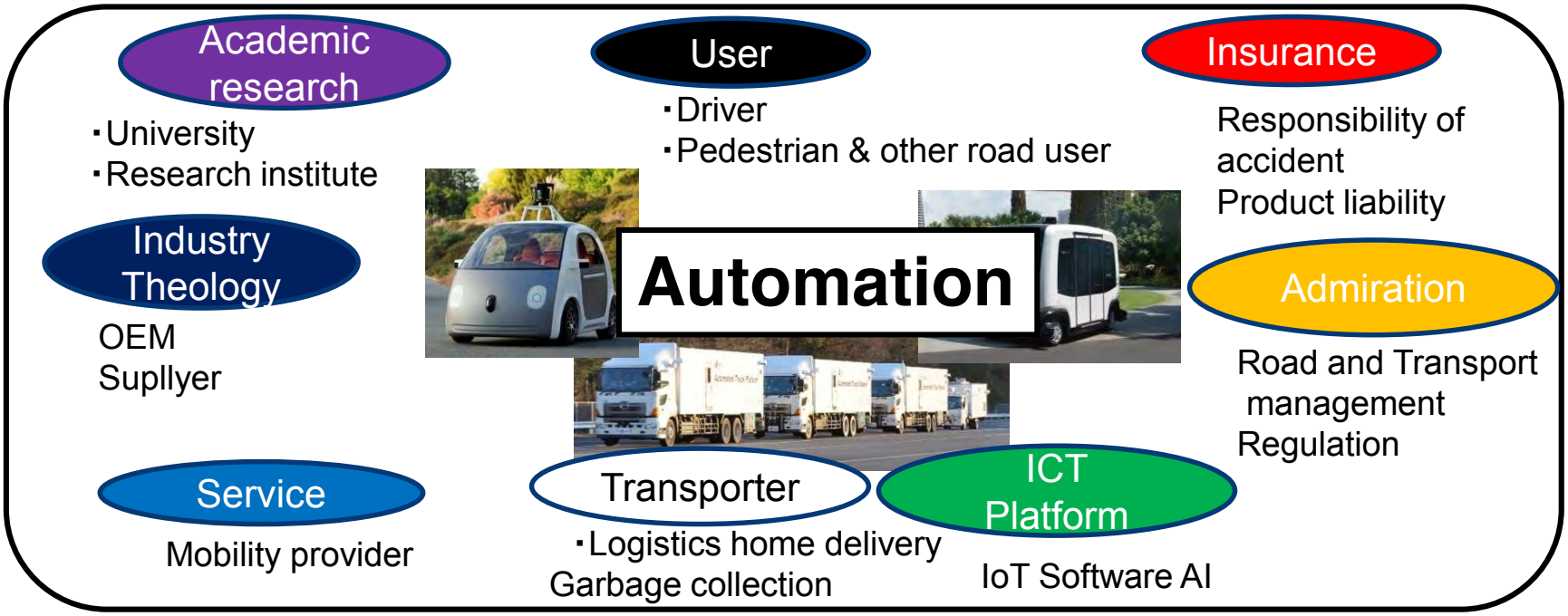
Local/depopulated area

Last/first mile service

Integrated sustainable multi-modal-transport systems

Establishment of **"ECOSYSTEM"** for any automated driving systems

- harmonized co-existence of industries, organizations & citizens

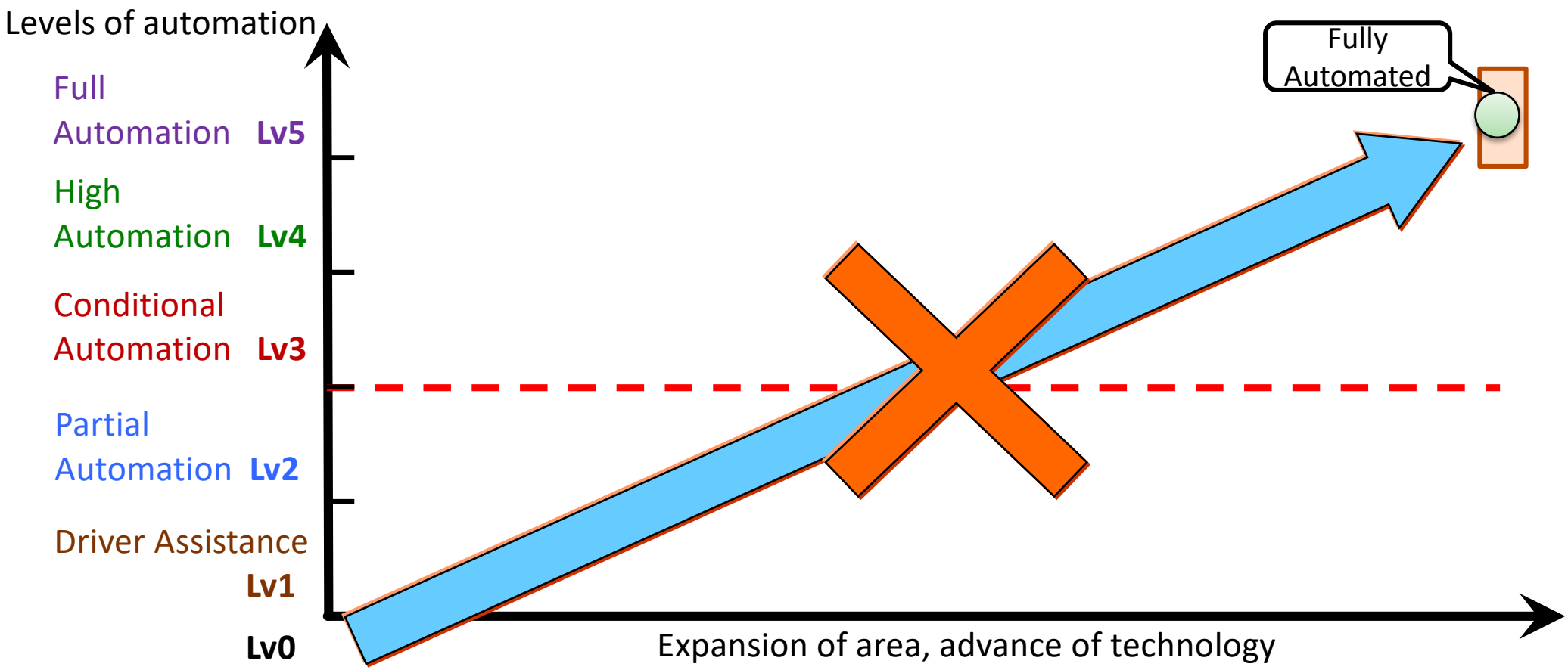


All of these partners should be committed, and benefited.

- To ensure ***social acceptability***, the establishment of ECOSYSTEM is essentially crucial.

Roll of CAVs for such integrated sustainable systems

- Need oriented, social problem solving, dedicated & focused introduction



List of study team's members

Name	Affiliation	Specialty
Masato Itohisa	Associate Professor, Faculty of Sociology, Hosei University	**Technology management**
Takeyoshi Imai	Professor, Graduate School of Law, Hosei University	**Criminal law**
Keisuke Uehara	Associate Professor, Faculty of Environment and Information Studies, Keio University	**Information and communications**
○ Takashi Oguchi	Professor and Deputy Director, Advanced Mobility Research Center, Institute of Industrial Science, The University of Tokyo	**Traffic control engineering**
Shusuke Kakiuchi	Faculty of Law, Graduate Schools of Law and Politics, The University of Tokyo	**Civil procedure**
Yuto Kitamura	Associate Professor, Graduate School of Education, The University of Tokyo	**Education**
Ryo Kurachi	Specially Appointed Associate Professor, Center for Embedded Computing Systems, Graduate School of Informatics, Nagoya University	**Cybersecurity**
Yasuhiro Shiomi	Associate Professor, Department of Environmental Systems Engineering, College of Science and Engineering, Ritsumeikan University	**Traffic engineering**
Naoki Suganuma	Associate Professor, Automated Driving Unit, Future Society Research Creation Core, Institute for Frontier Science Initiative, Kanazawa University	**Robotics engineering**
Akihiro Nakamura	Professor, Graduate School of International Management, Yokohama City University	**Public economics**
Pongsathorn Raksincharoensak	Associate Professor, Department of Mechanical Systems Engineering, Tokyo University of Agriculture and Technology	**Mechanical dynamics control**
Hiroaki Miyoshi	Professor, Graduate School of Policy and Management and Director, Institute for Technology, Enterprise and Competitiveness, Doshisha University	**Technology and public policy**
Akinori Morimoto	Professor, Department of Civil and Environmental Engineering, Faculty of Science and Engineering, Waseda University	**Urban planning**
Goro Yamazaki	Associate Professor, CO Design Center, Osaka University	**Cultural anthropology**

Roll of CAVs for such integrated sustainable systems

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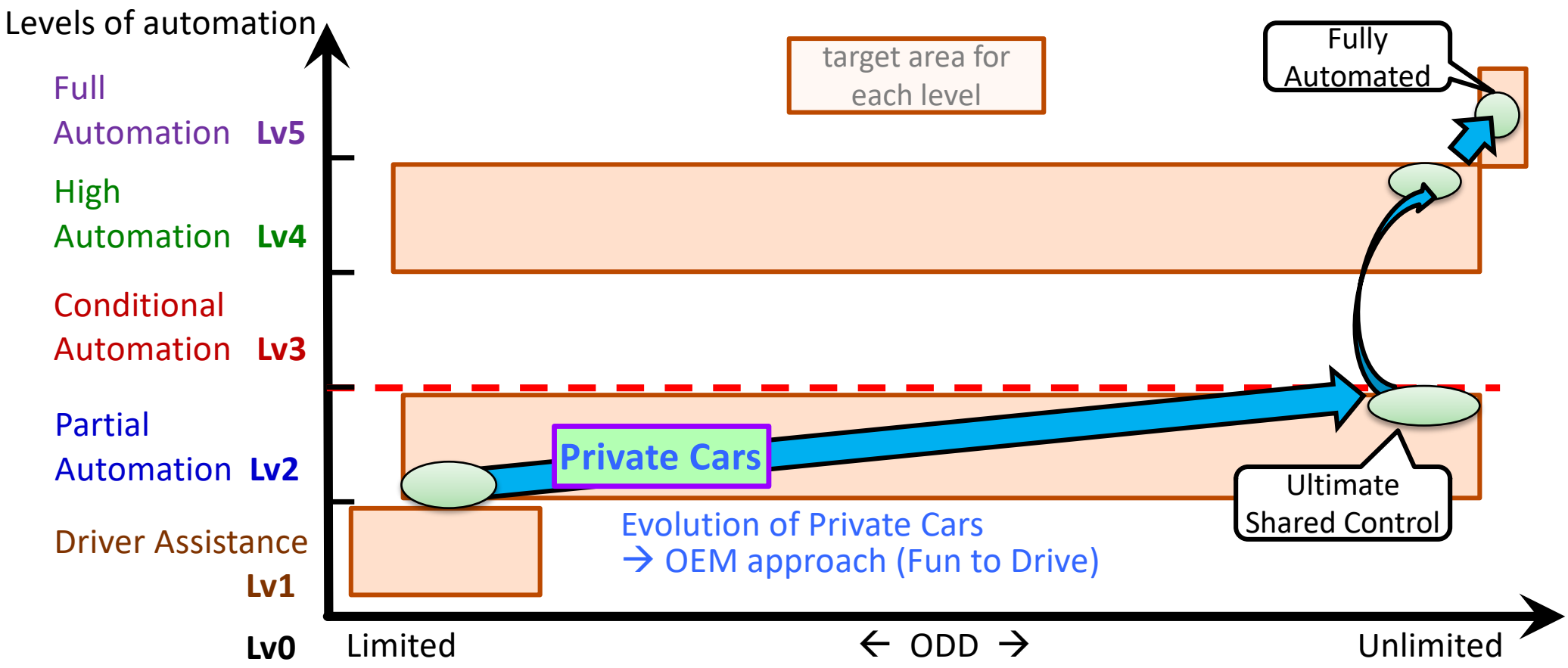

Modified based on the proposal written in entrusted study by ITS center, UTokyo in FY2016
Report available: http://www.sip-adus.jp/wp/wp-content/uploads/cao_2016_cao1-11_01.pdf

Roll of CAVs for such integrated sustainable systems

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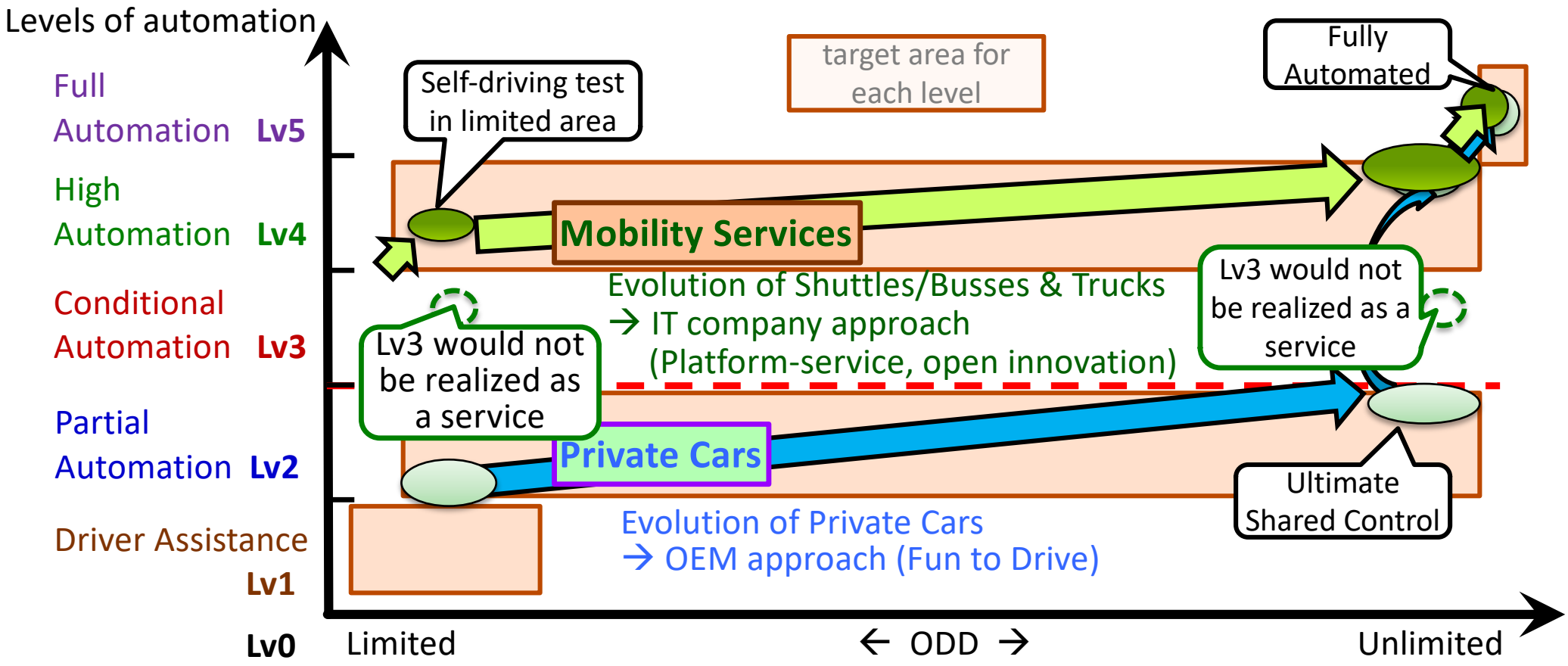

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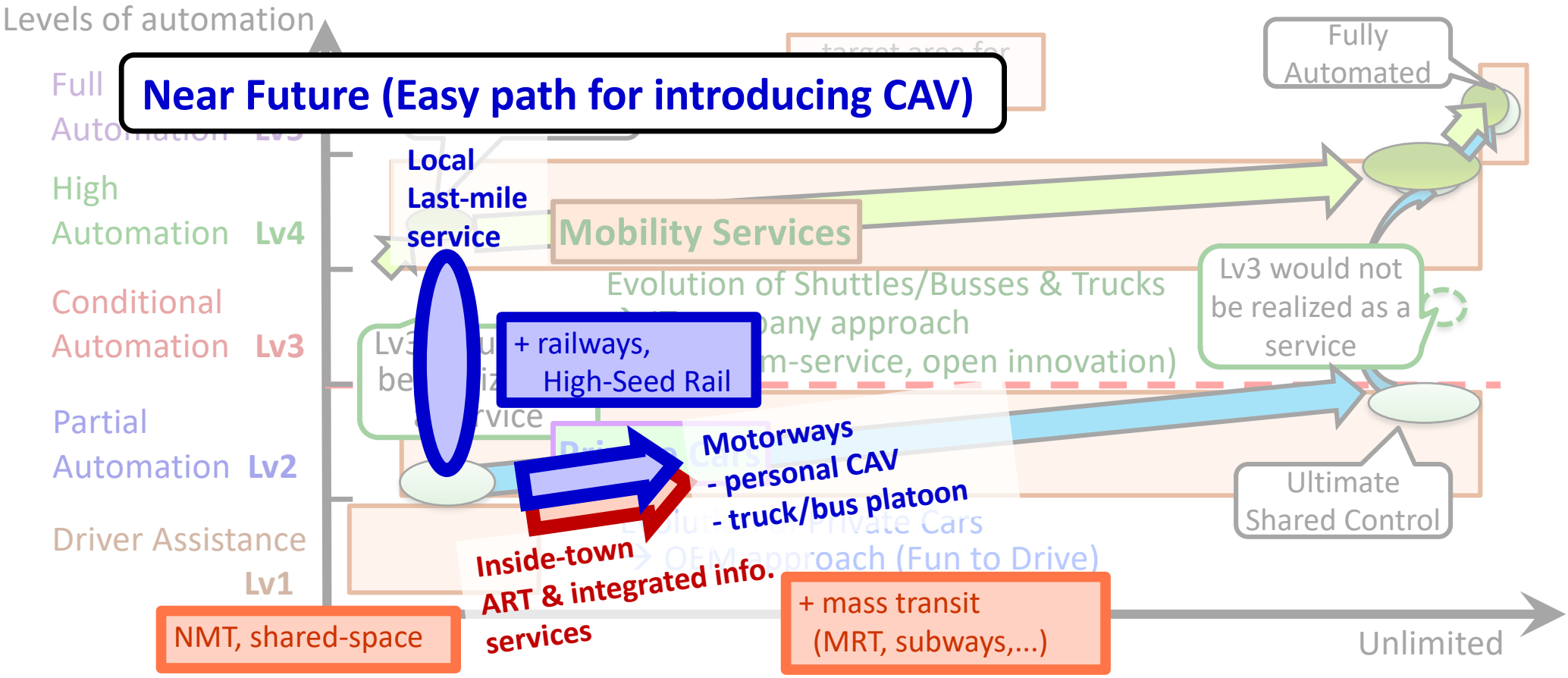
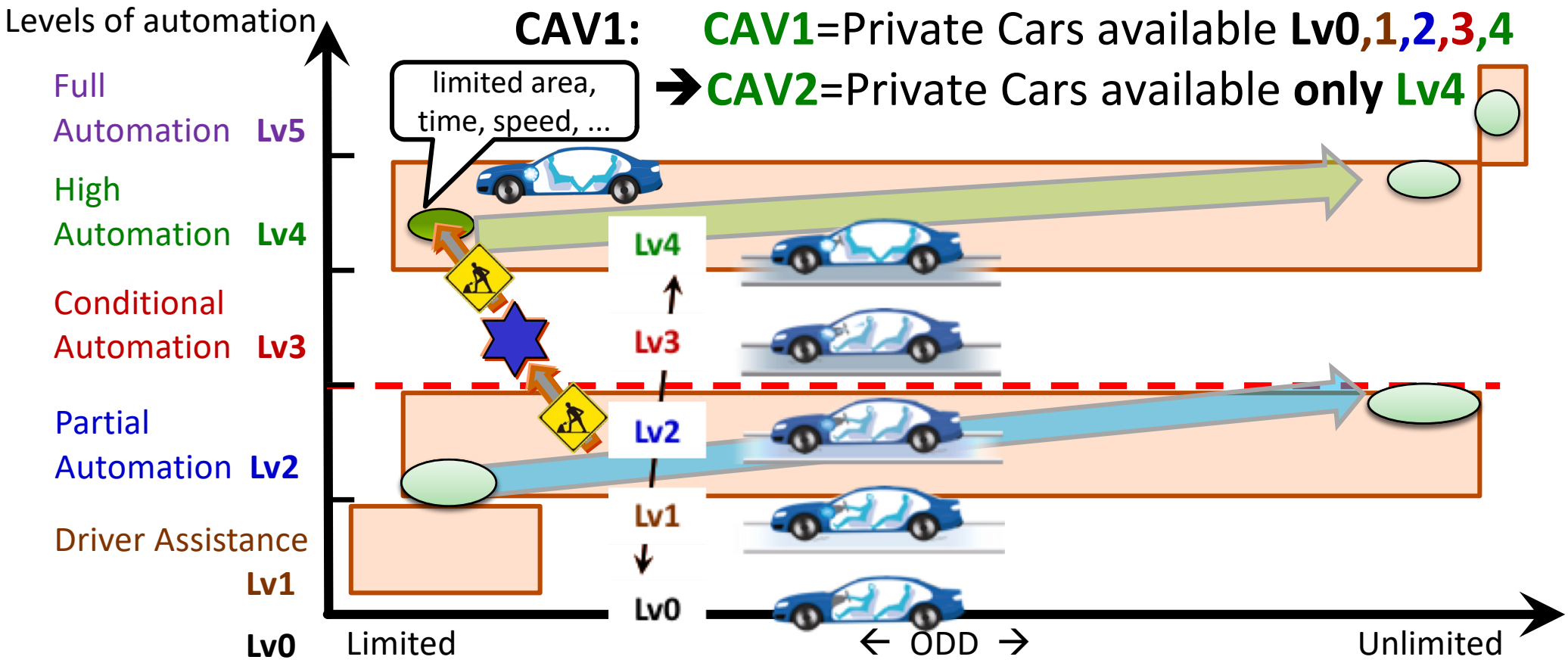
CAVs development should be harmonized with Urban Plan

[realized in 2020] **Lv2 ART**, limited-area **Lv4 service, Lv2 personal CAV & platoons** on Motorways
with checking social acceptance, urban plan, legal/financial issues...



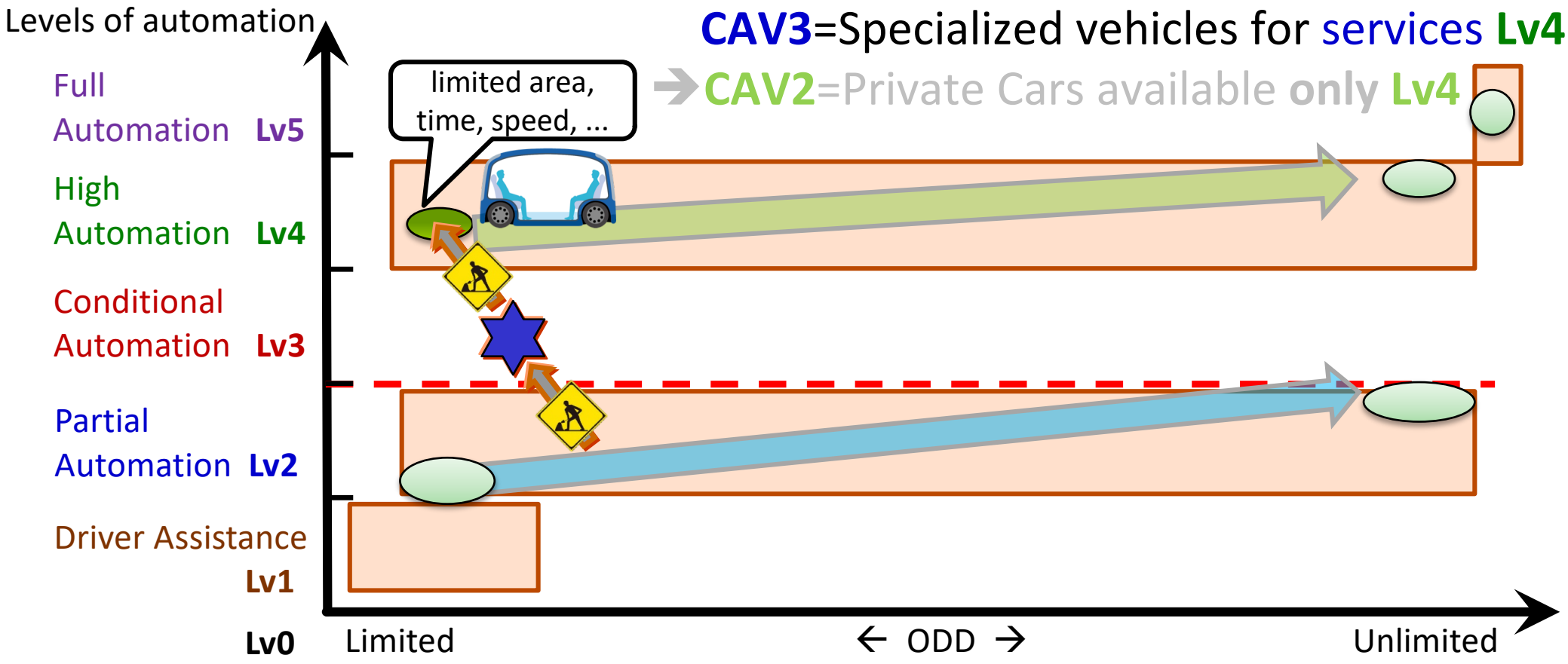
Challenges for the further/future developments

Three Major Challenges: 1st = Realization of High Automation **Lv4**



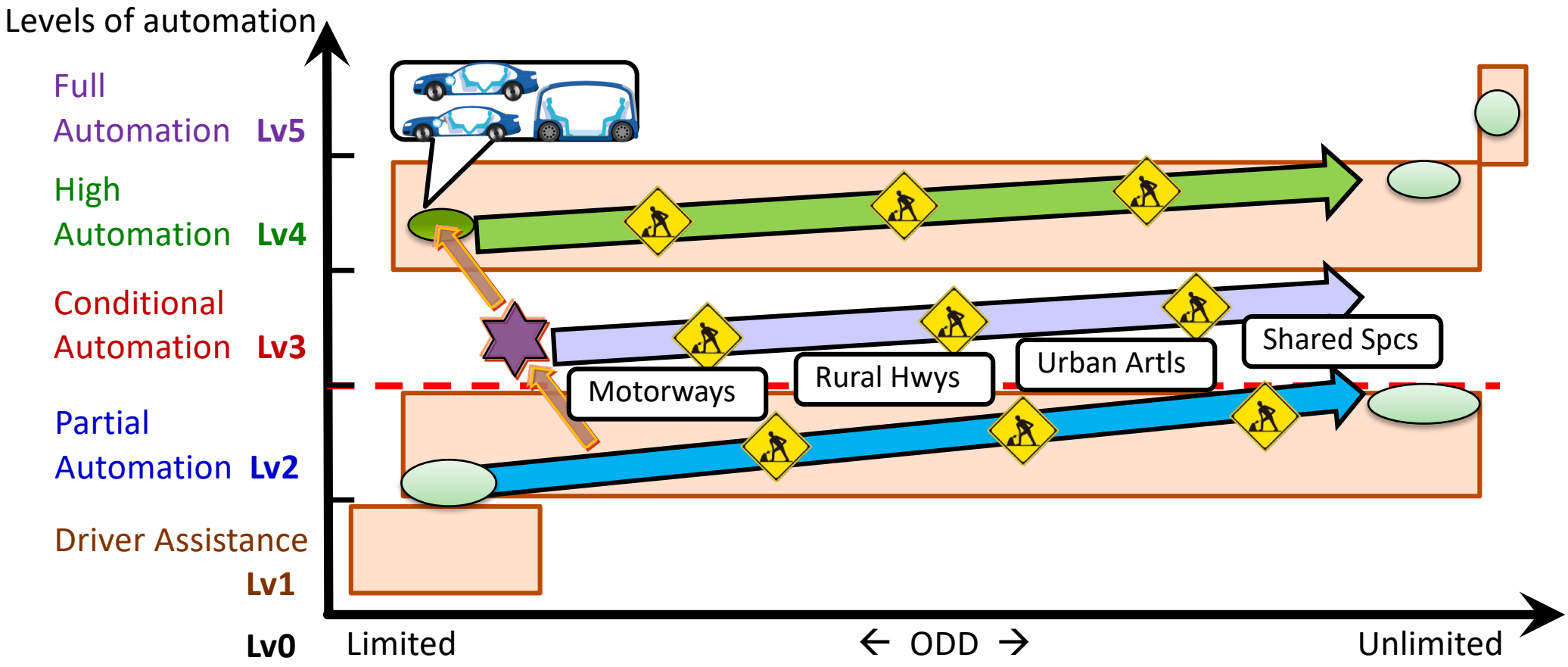
Challenges for the further/future developments

Three Major Challenges: **2nd** = Realization of High Automation **Lv4**



Challenges for the further/future developments

Three Major Challenges: 3rd = Increase applicable domain esp. in **Lv3 & Lv4**



Issues for the further/future developments

- **How to increase** the applicable **domain** (**Lv3 & Lv4**)?
- **How to change** the automation **levels** (from **Lv2 to Lv3**, from **Lv3 to Lv4**)?
- **How to** realize the **use** of the "**Specialized Vehicles**" for **Lv4**?