

Technical Achievements 2021/22

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NDS.Live specification now openly accessible!

<https://nds-association.org/nds-live-open-access>



- Access allows non-members to
 - review the NDS.Live Specification and Tools and become acquainted with it
 - contribute requirements for use cases
 - built demonstration application for convincing customers
 - check potential business cases with NDS.Live in detail before joining the NDS Association
- Commercial use requires to become NDS Member and to accede the NDS Member Cross License Agreement

One-stop shop for NDS.Live

Architecture Overview

Data schema specification

Tools

Tutorials

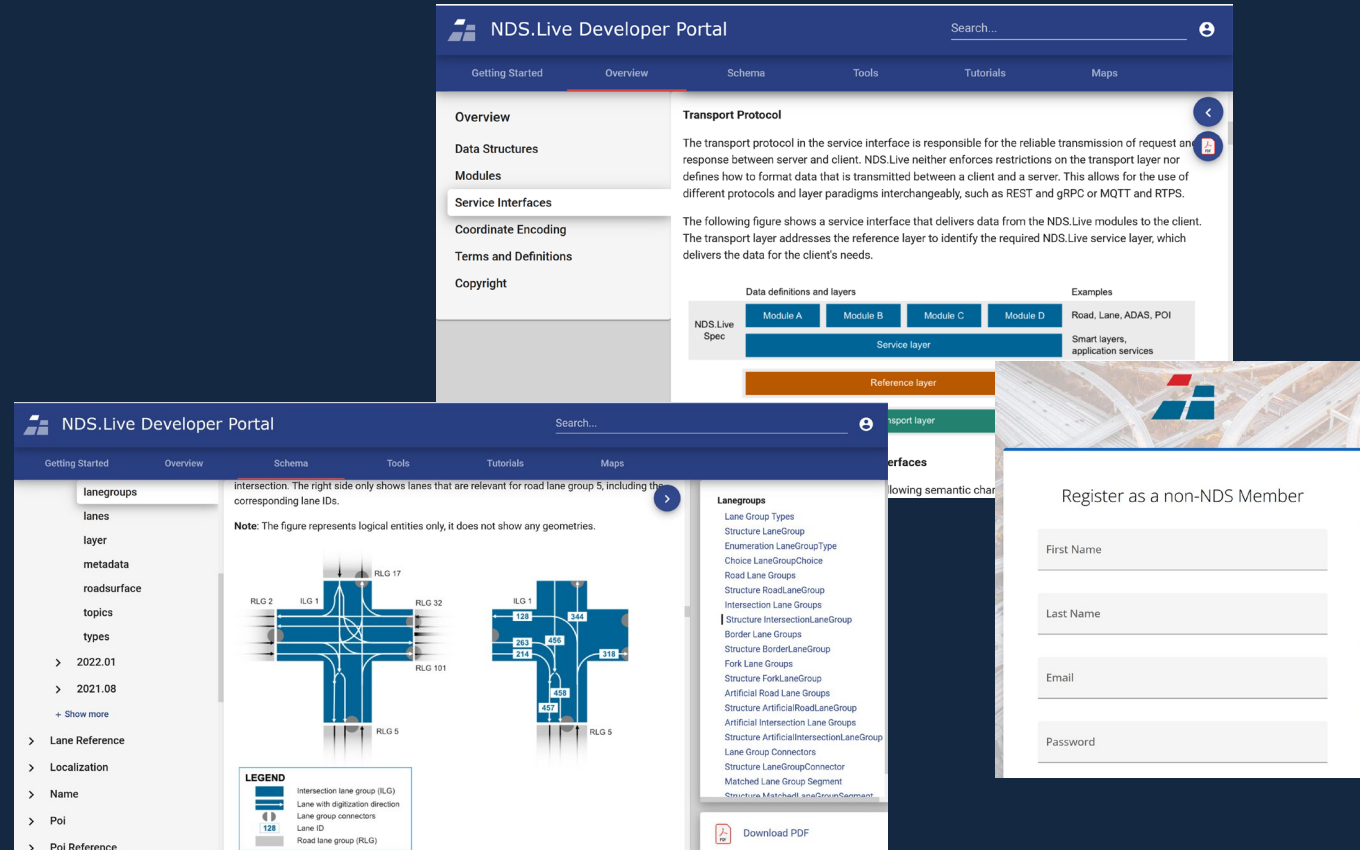
Sample Maps

Best Practices (coming soon)

Certification (coming soon)

<https://developer.nds.live>

<https://signup.nds.live>



The image displays three overlapping screenshots of the NDS.Live Developer Portal. The top screenshot shows the 'Overview' page with a sidebar menu containing 'Getting Started', 'Overview', 'Schema', 'Tools', 'Tutorials', and 'Maps'. The main content area is titled 'Transport Protocol' and describes the service interface. The middle screenshot shows the 'Schema' page, specifically the 'Lanegroups' section, which includes a diagram of a road intersection with lane groups (ILG, RLG) and a legend. The bottom screenshot shows the 'Register as a non-NDS Member' form, which includes fields for 'First Name', 'Last Name', 'Email', and 'Password'.

NDS.Live – HD & ADAS map is product ready



HD Map layers



Lanes

Lane attributes

Localization Landmarks

Obstacles

Occupancy Grids

Road Surfaces

Parking Facilities

ADAS Map layers



Roads

Road attributes

Routing attributes

ADAS attributes

Road Names

Admin. Hierarchy

IVI Map Layers

POI

Voice Guidance

2D Map Display

3D Buildings

Advanced City Models

Aerial & SAT images

Digital Terrain Model

NDS.Live – 2021/2022 release highlights



Oct21: Location IDs for NDS.Classic integration

Sep21: Major size reduction for all layers

Aug21: Finalize ISA requirements

Jun21: Horizon service, SmartLayer file store

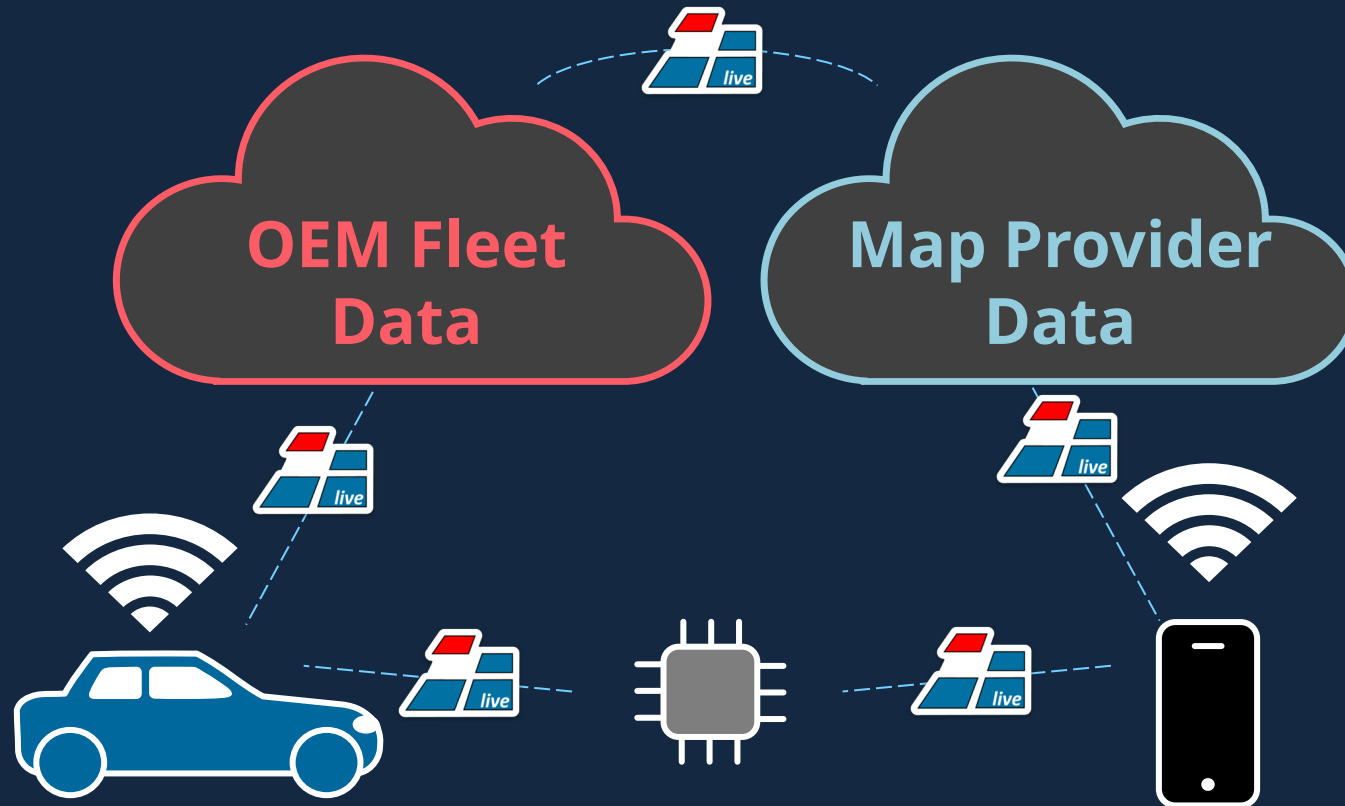
Dec21: Localization layers, Parking layer

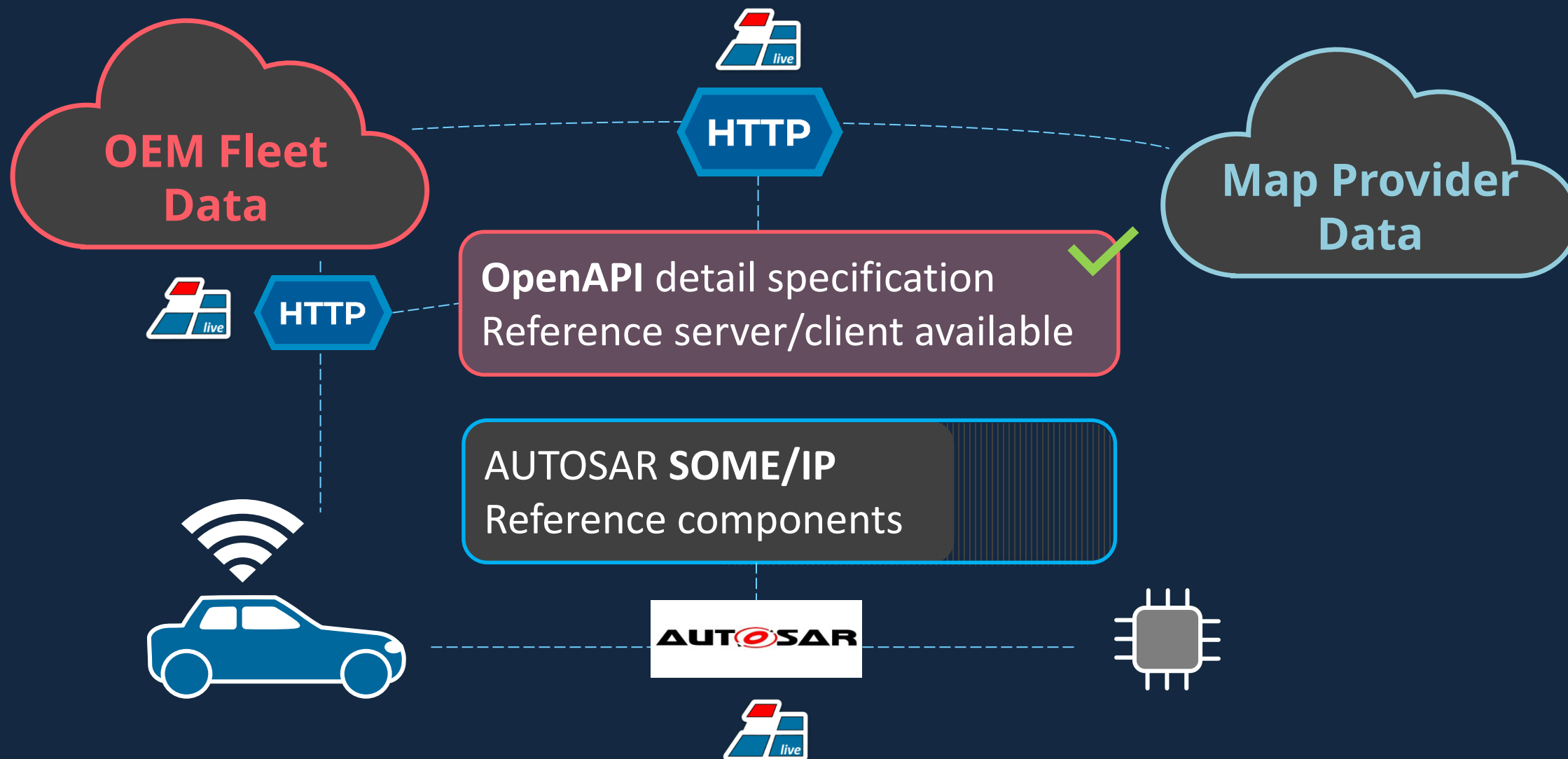
Feb22: Routing for hybrid navigation

Mar22: Road name layer

May22: Search service, HD traffic lights







Goal: Define NDS.Live layers necessary to fully support **AVP type 1**

Start: July 2021

Specification implementation in
Dec21 NDS.Live release

Enhanced to non-AVP parking use cases



2021/22 development highlights

Viewport driven MapViewer

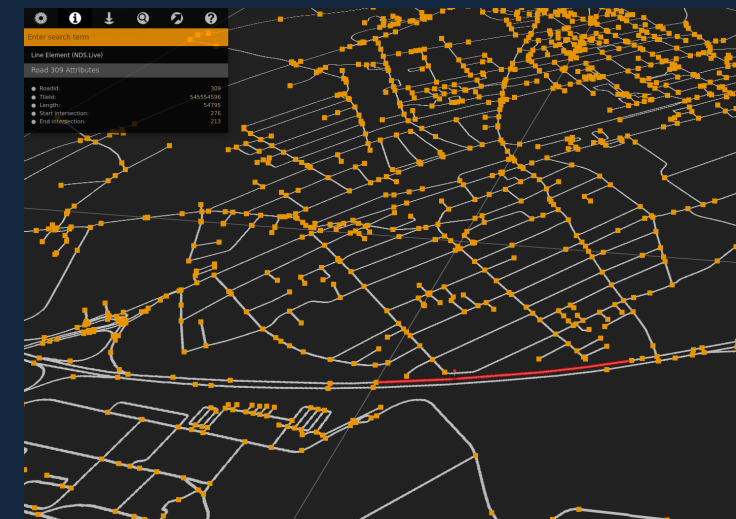
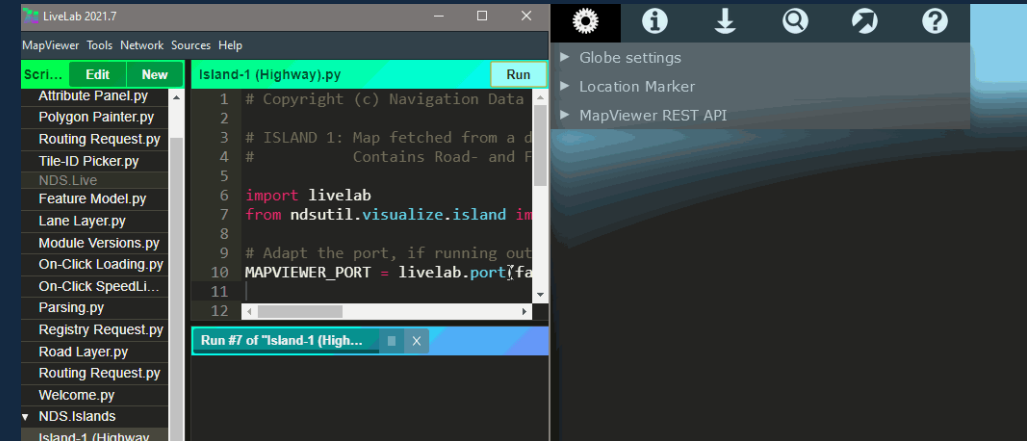
Automated NDS.Live source updates

GeoJSON export

Example scripts in Python to improve
getting started with NDS.Live

livelibs: Use utilities with any Python IDE

Platform support: Win10, Linux + MacOS



Package Manager to master modularity

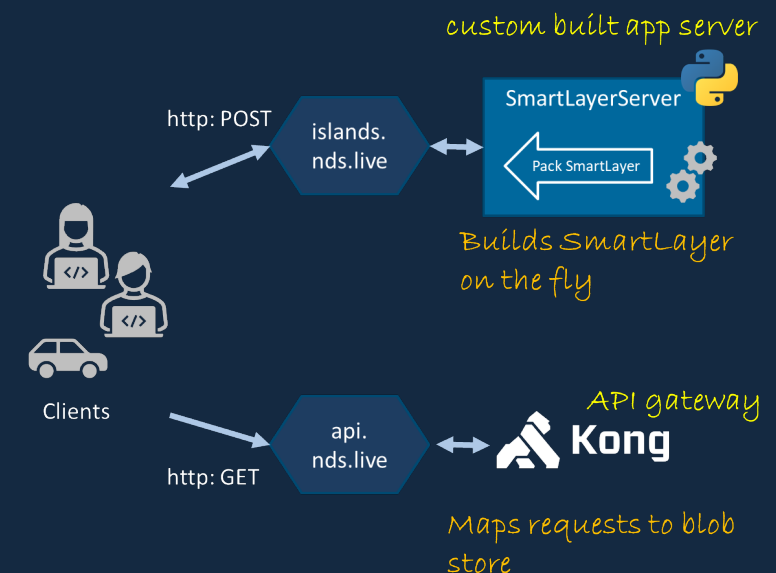
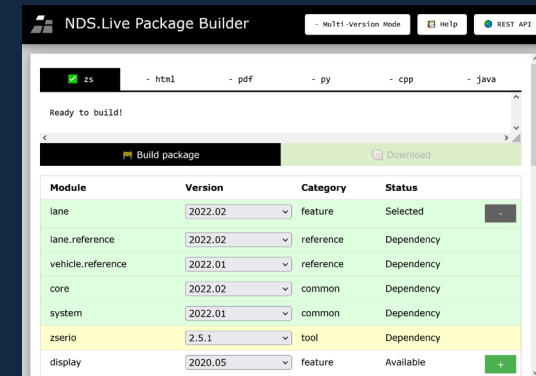
Extended to **multi-version build** configurations

Online services for Registry and sample maps

NDS.Islands available as POST & GET services to demonstrate **reference layer interoperability**

Reference implementations for getting started

Improved CI for high quality spec releases



Attributes Fast track extension to support
EU ISA requirements



Continued tool support and enhancements

Database Inspector

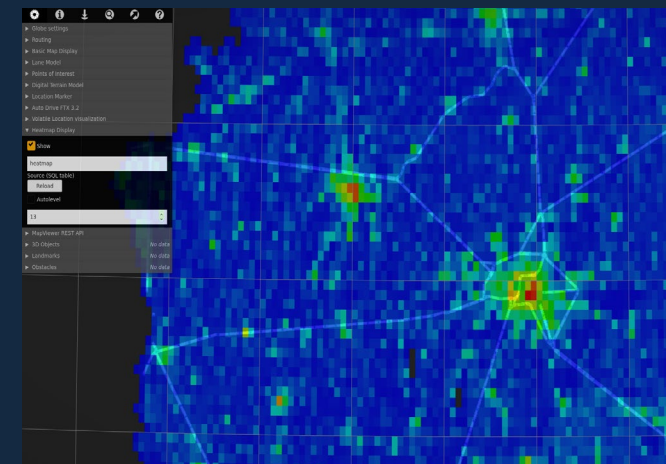
..., geoJSON export, heatmaps, DBI lite edition, ...

SQLite engine & RDS

maintenance and upgrades

OpenDrive Converter

..., XODR 1.6 & 1.7, additional attributes, ...



```
UPDATE routingTileTable
SET ndsData = blobfromxml('routing_tile_2097284.xml', ndsversion()),
'RoutingDatabase', 'routingTileTable', 'ndsData',
'id', 2097284) WHERE id = 2097284;

UPDATE routingTileTable SET ndsData = "wrongdata" WHERE id = 2097284;
SELECT * FROM routingTileTable WHERE id = 2097284;]
```