Welcome to the 4th NDS Public Conference!

18. May 2022, Frankfurt/ZOOM

Start at 08:00 (CEST)

Navigation Data Standard

4th NDS Public Conference 2022

Time (CEST)		Subject	
08:00 – 08:15	1.	Welcome and Introduction to NDS Conference 2022	Martin Schleicher, NDS Chairman
08:15 – 08:45	2.	Introductions of New NDS Members	DMP/Ushr, Chris Thibodeau NIO, Hongyuan Yuan Parkopedia, Brian Holt
08:45 – 09:15	3.	Woven Planet's Automated Mapping Platform (AMP) use of NDS.Live	Woven Planet, Andrew Calkins
09:15 – 09:30	**Break**		
09:30 – 10:00	4.	NDS Technical Achievements 2021/2022	Fabian Klebert and Andre Heinrich, NDS
10:00 – 11:30	5.	NDS.Live Demonstrations and Panel Discussion	NDS Members
11:30 – 11:45	**Break**		
11:45 – 12:15	6.	Closed-Loop Testing of Automated Driving Functions on NDS Maps using OpenDRIVE	BMW, Marco Sippel dSPACE, Michael Kluge
12:15 – 12:45	7.	NDS.Live Evaluation Portal and Hands-on Demo	Fabian Klebert, NDS
12:45 – 13:30	**Lunch Break**		
13:30 – 13:50	8.	NDS Roadmap	Otto Nyiro, NDS
13:50 – 14:00	9.	Closing Remarks	Martin Schleicher, NDS Chairman

Navigation Data Standard

Why do we organize „NDS public conferences“?

- Communicate NDS strategy and benefits publicly
- More visibility and awareness for NDS
- Discussion and feedback with the industry

Highlights

Visibility of NDS and marketing activities: 4 new members, 40+ articles, 1200 followers

Product definition and roadmap: Established, OpenDrive now also covered

New product structure with NDS.Live and NDS.Classic: Established

Software layer wrapping database: NDS.Live release

Simpler access to NDS for non-commercial use:
NDS.Live specification now openly accessible!

NDS Vision

NDS is THE worldwide standard for map data in automotive eco-systems

NDS Vision

NDS is THE worldwide

worldwide coverage and global adoption

standard for map data

one specification with enough flexibility
for a customized user experience

data model (structure & semantics),
storage format, interfaces, protocols

in automotive eco-systems

in-vehicle applications, companion applications, cloud applications, vehicle related services,
supporting navigation, driver assistance and autonomous driving

NDS Association Members

NDS specification is defined by the members of the NDS association:
OEMs, system vendors, solution providers, and navigation data providers.

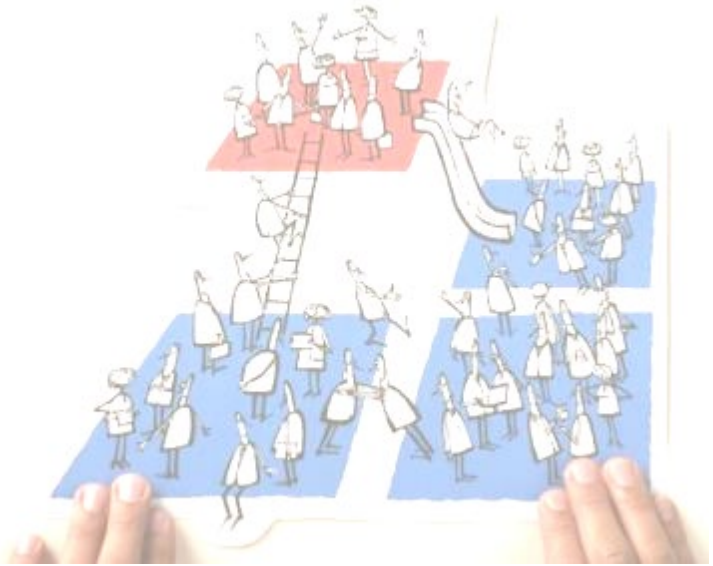
Access to NDS Live

NDS.Live specification now openly accessible!

- Access allows non-member 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
- Link: https://nds-association.org/nds-live-open-access
- Commercial use requires to become NDS Member and to accede the NDS Member Cross License Agreement

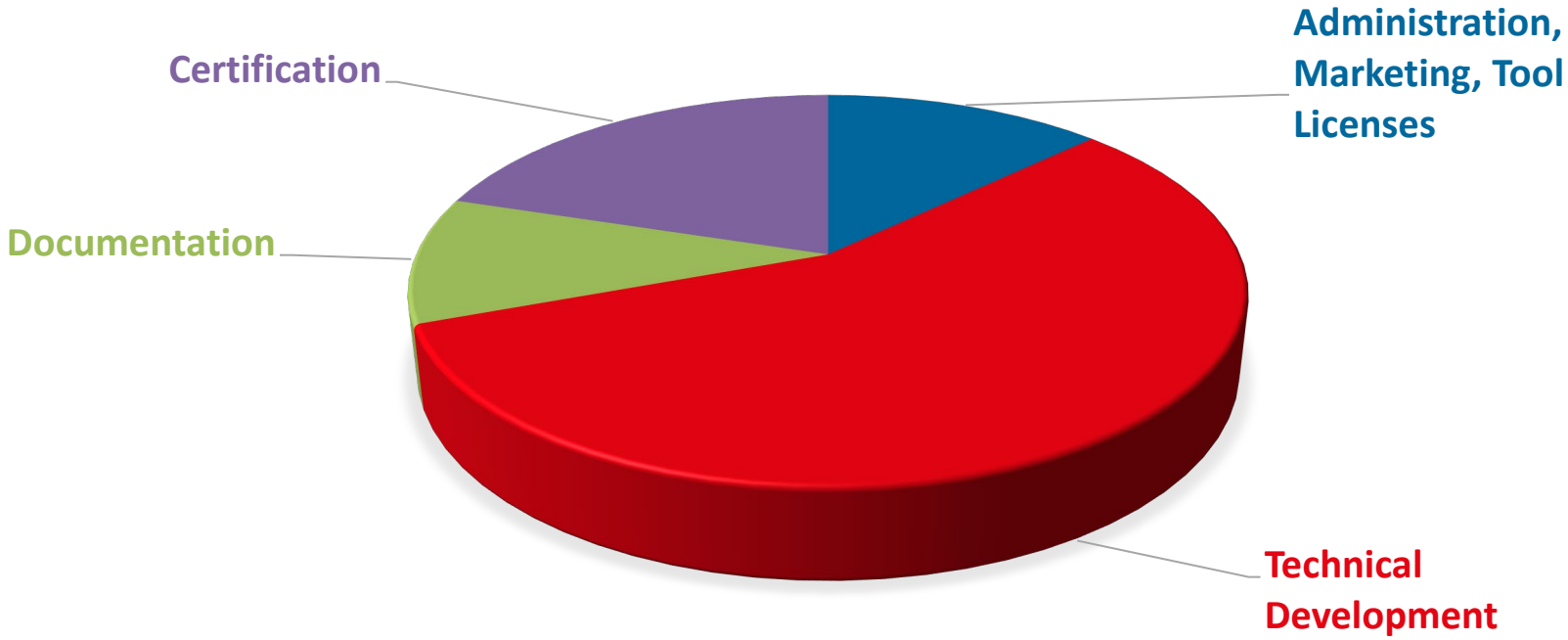
Why to Become NDS Member?

- Prerequisite for **commercial NDS products**
- **New business opportunities**, as there is a high demand for NDS compliance in the market
- Access to **all NDS tools** supporting the development of NDS compliant products
- **Avoid duplicate work** from the collaboration within NDS at development and testing
- Access to **NDS Support Team** and to a **lively NDS community**
- **Influence on the future development** of the NDS standard to the benefit of own business



How are Membership Fees used in NDS?

The NDS Membership fees are well invested!



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

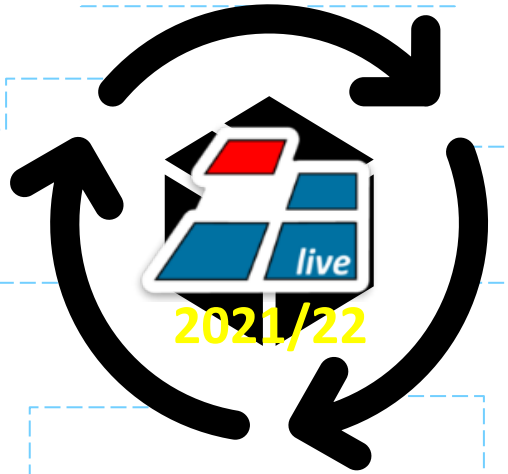
NDS.Live – 2021/2022 release highlights

Oct21: Location IDs for NDS.Classic integration

Sep21: Major size reduction for all layers

Aug21: Finalize ISA requirements

Jun21: Horizon service, SmartLayer file store



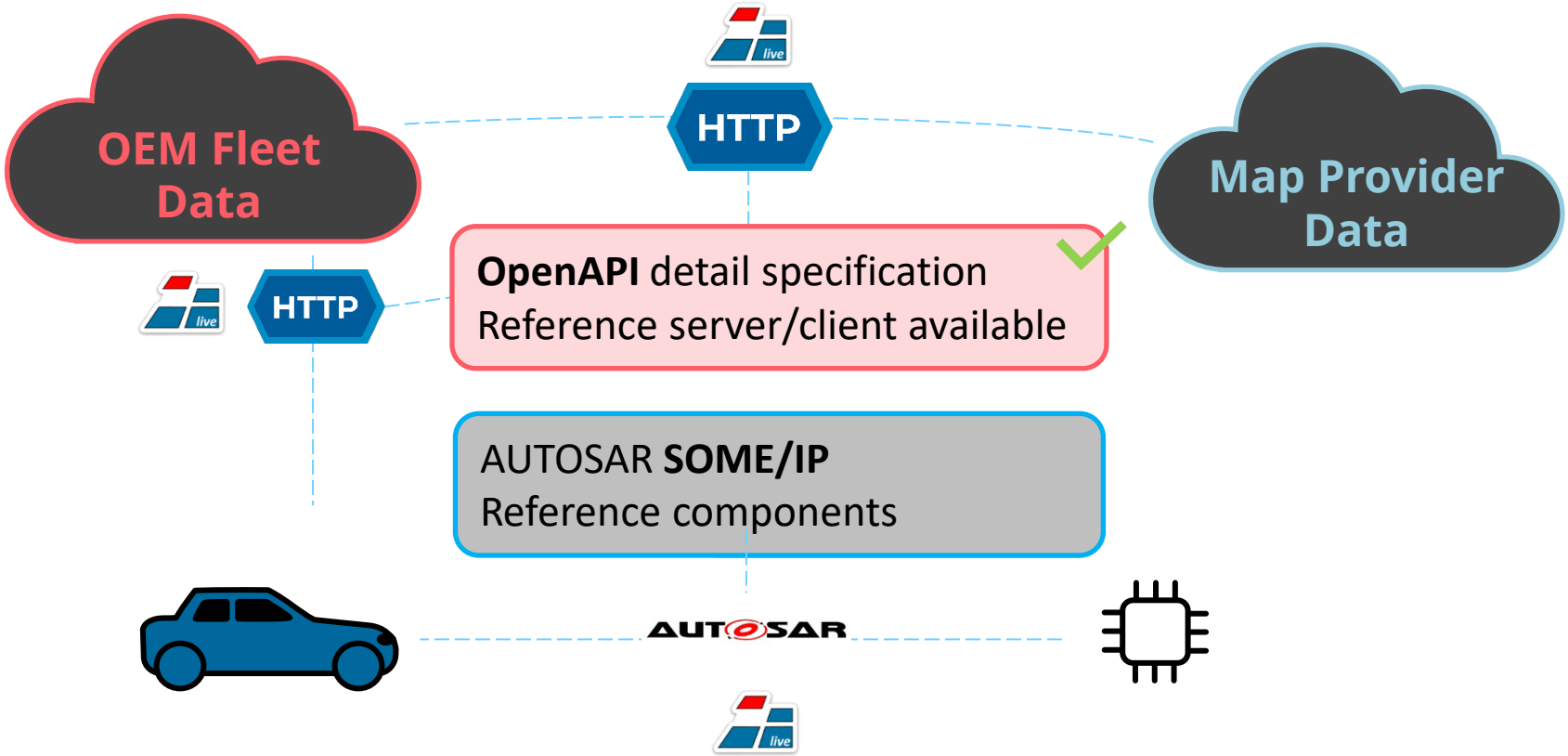
Dec21: Localization layers, Parking layer

Feb22: Routing for hybrid navigation

Mar22: Road name layer

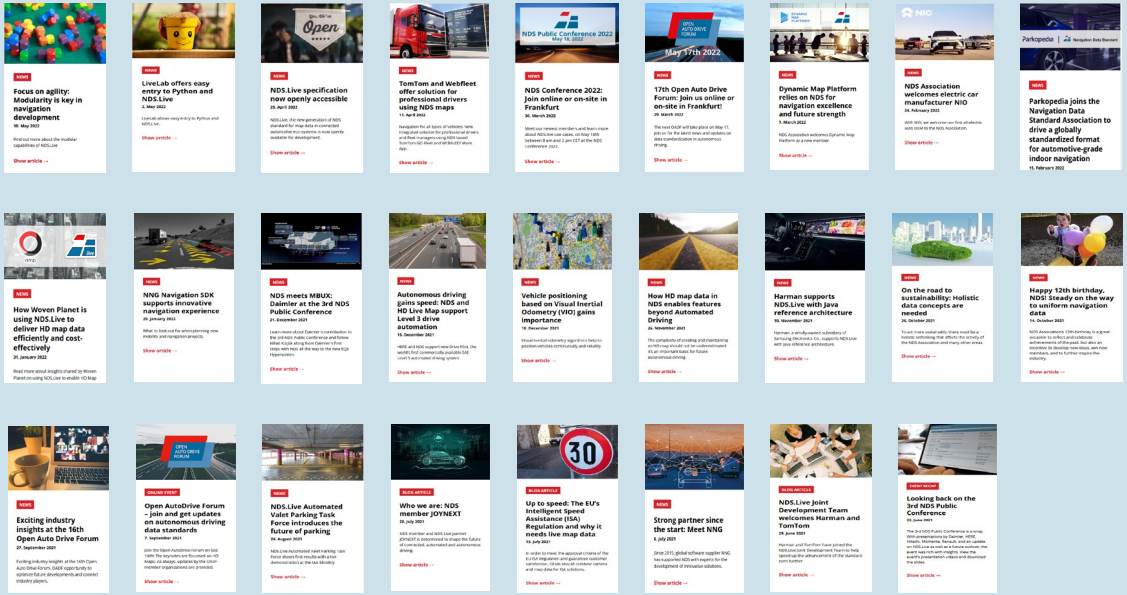
May22: Search service, HD traffic lights

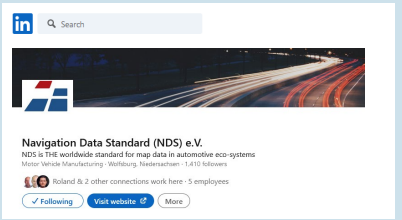
NDS.Live – Reference Transport Layers

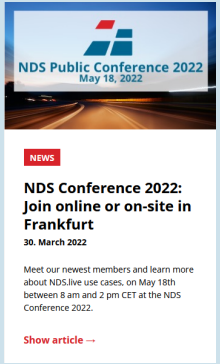


NDS Website and LinkedIn News

26 news articles have been published in the past 12 months!







Your company and projects featured!

→ Get in touch with philip.hubertus@here.com

NDS Presentations

September 2022

ITS World, 17-22, Los Angeles:

“Dependable HD Maps for Safe Automated Driving – How Do We Get There From Here?”

October 2022

SIP-adus workshop, 11.-13., Kyoto

SIP-adus
Innovation of Automated Driving for Universal Services

November 2022

Three NDS-related presenttions at ELIV Market Place, 15.-16. , Baden-Baden

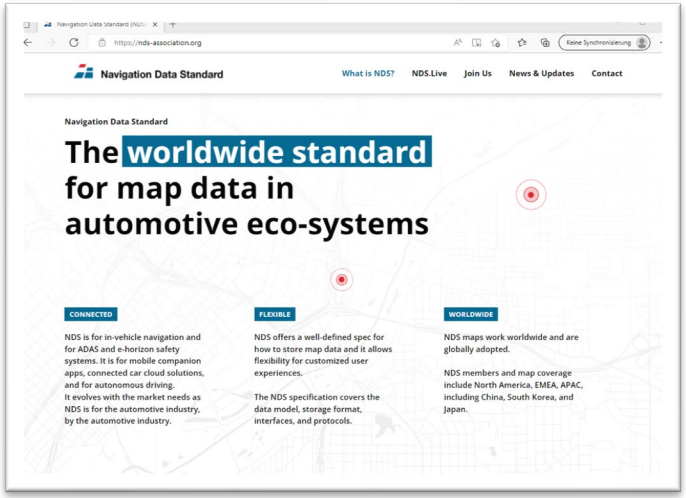
ELIV MarketPlace 2022

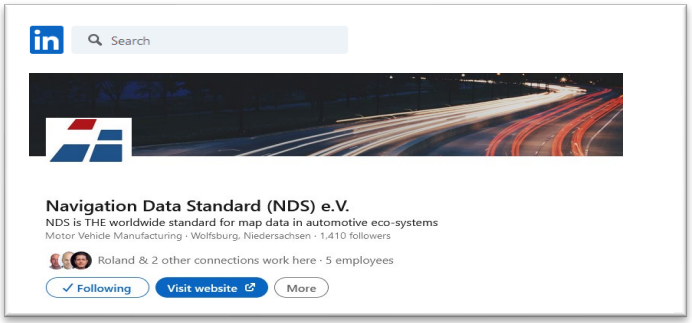
December 2022

Submission to ASAM International Conference in Dec 2022

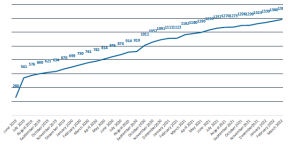
ASAM

Attractivness of Web site, LinkedIn and Videos in past 12 months





- NDS Web site had more than 58.000 page views
- NDS LinkedIn
  - 1,418 Followers by now
  - Posted articles led to 540.000 views



- Published videos
  - 4,000 views in past 12 months
  - „What is NDS.Live?“ released last year attracted by far the most viewers with more than 1,200 views

NDS Certification

NDS.Live Certification Process Specification

Angelegt von Andre Heinrich, zuletzt geändert am Apr 01, 2022

About this Document
Document History
Target Audience
Use of Modal Verbs
Introduction to NDS.Live Certification and Validation
Certification Purpose
Certification Properties
Object of NDS.Live certification
Certification Users
Members
Service Suppliers and Application Suppliers
Validation Certification Board
Management and Release Planning of NDS.Live Certification Tooling
Certification Lab
Registering as Certification Lab
NDS.Live Certification Tooling Provider
Validation Suite Board
Complainant and Defendant
Certification Components
Validation Level
Validation Methodologies
Test Coverage
Reference Profiles (ToDo Parsors another review needed)
Description
Reference Profile Naming
Certification Configurations
Certification Cycles
Targeted Certification Coverage
Certification Profiles
Certification Process
Technical Certification Process
Special Conditions for Certification
Versioning and Releases
Administration of Certificates
Composition of Certificates
Profile Report
Certification Renewal
Escalation Certification
Certification Implementation
Certification Tooling
Transportation Layer

- NDS.Live
  - Certification Tool: Prototype improved based on member feedback
  - Certification Process Specification almost completed
- NDS.Classic
  - Certification Bench now includes Lane FTX, Signature FTX and more test cases
  - Number of certificates further increased

HD Maps for AD - Availability

NDS.Classic

Who	HD Map Coverage
Amap Software	China: All highways and expressways, City normal roads of 15 Cities
Baidu	China: All highways and expressways, some cities urban road and industrial park roads with full features
HERE	North America and Western Europe: Ongoing global coverage roll-out
Kuandeng	China: Over 300 cities and highway and urban expressway Germany and Korea: Several hundred kilometers including highway and urban roads
NavInfo	China, HD Pro: 100% highway and urban expressways nationwide (300,000+ km) HD Lite: China, rollout of structured roads, provincial roads, and national roads
Navis-AMS	South Korea: All highway and city expressways, all 4-lane roads; full coverage of South Korea will be finished by 2025
TomTom	United States, Canada, Western Europe and Japan: ongoing global coverage roll-out
Zenrin	All highway and expressways in Japan

NDS.Live map data/services ramped up by many NDS members

See, e.g., today‘s demonstrations

Call to Action

We are interested in your involvement and feedback regarding:

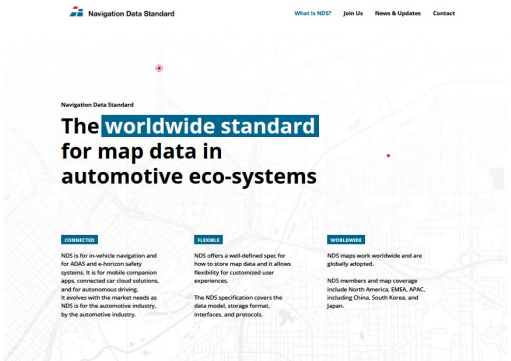
Visibility of NDS and marketing activities

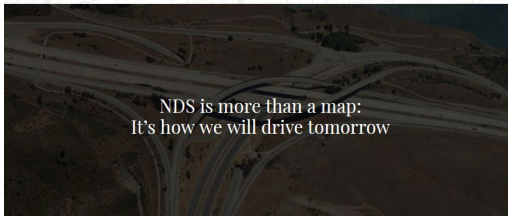
Product definition and roadmap

Your product plans with NDS

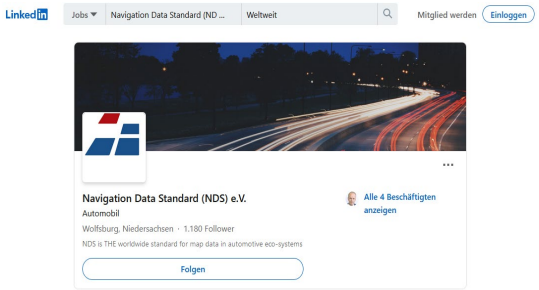
We are available: Fabian Klebert, Markus Junker or myself

Further Information





www.nds-association.org



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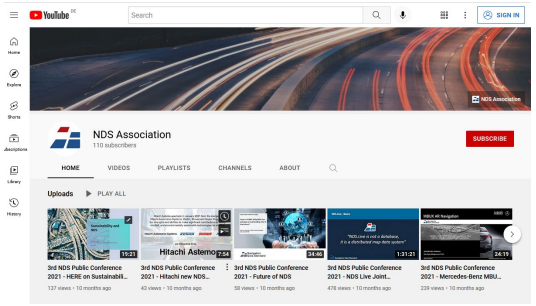

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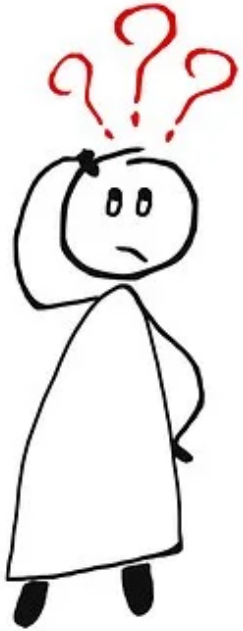
Martin Schleicher

martin.schleicher@nds-association.org

NDS Association Chairman

Asking Questions



Questions?

→ Please use Q&A icon for raising questions!

- Indicate speaker/presentation you refer to
- Selected questions will be read after each presentation and answered live
- Speakers are asked to answer remaining questions in chat

BACKUP

The 4th NDS Public Conference!

BREAK

Navigation Data Standard