technica engineering
Member of KPIT Group

FLYNC

Accelerator for SDV network configuration

*#ONE**STEP**AHEAD*

technica engineering
Member of KPIT Group

#1 | FLYNC: ACCELERATOR FOR SDV
MOTIVATION

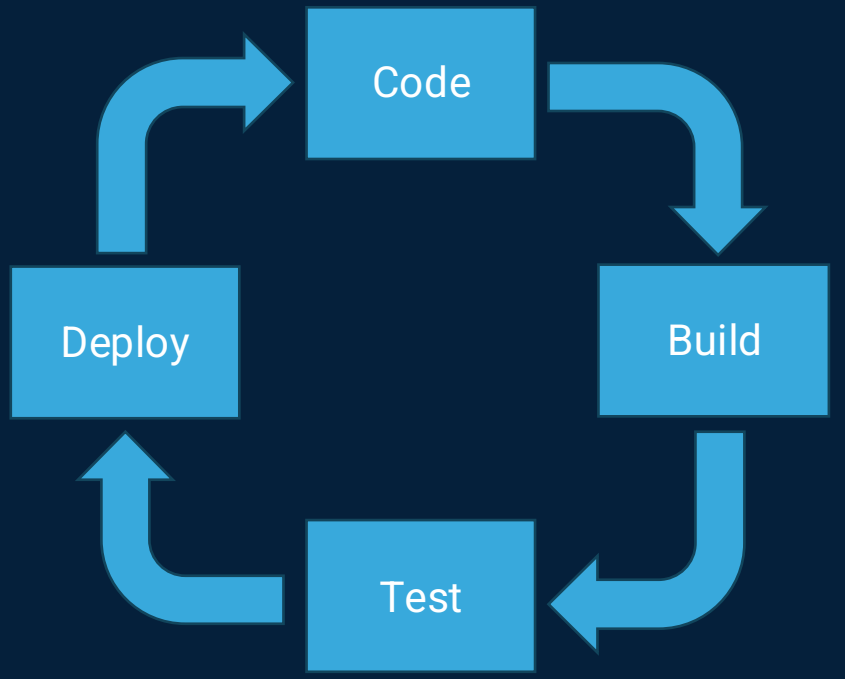
MOTIVATION

SOFTWARE-DEFINED VEHICLES (SDV)

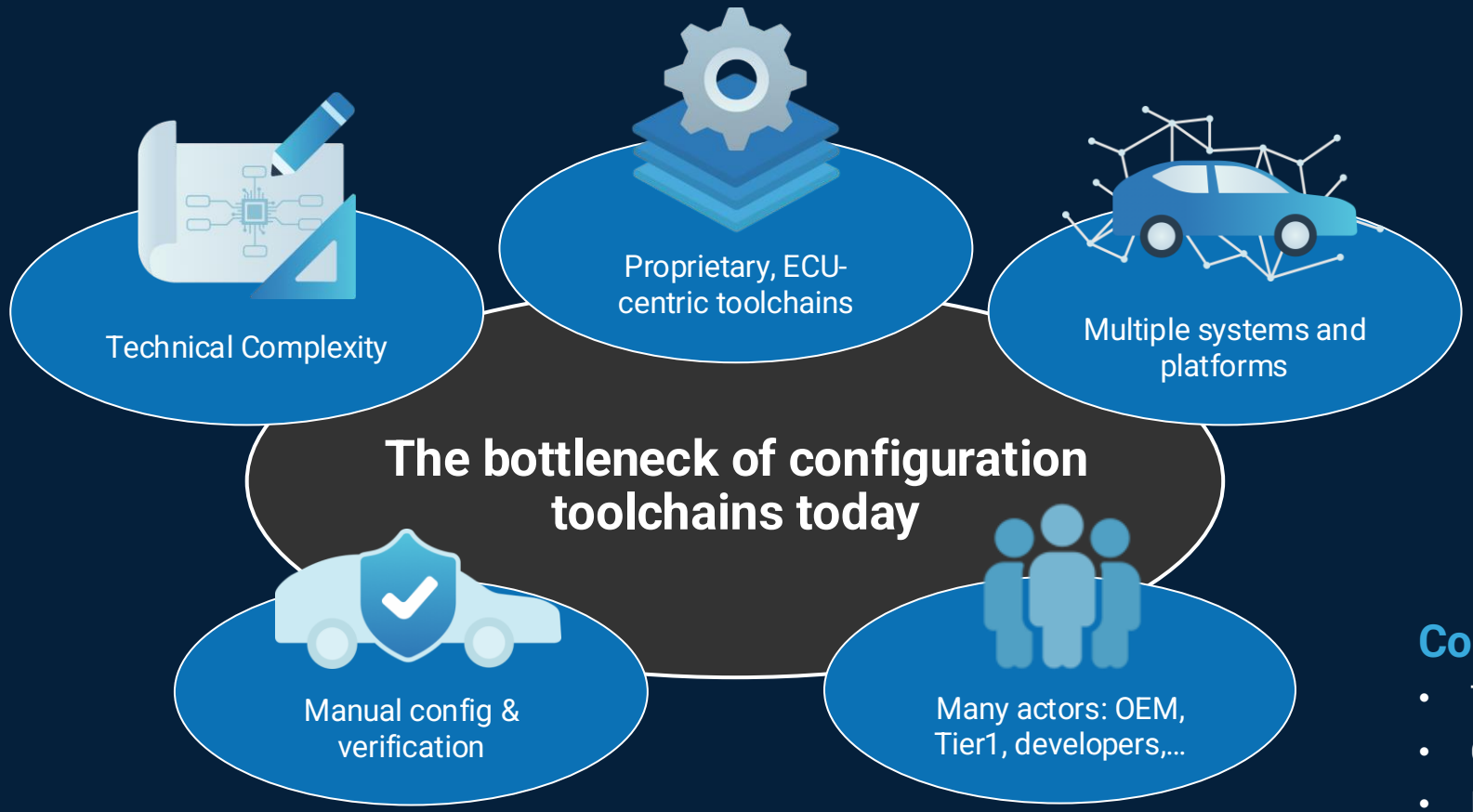
- Automotive innovations are based on Software.
  - Software is foundation for successful vehicle offerings.
  - Fast software development cycles are essential.

- But why are some OEMs picking up speed while others seem to slow down?

- Why does everything seem to slow down when communication configs need changes?



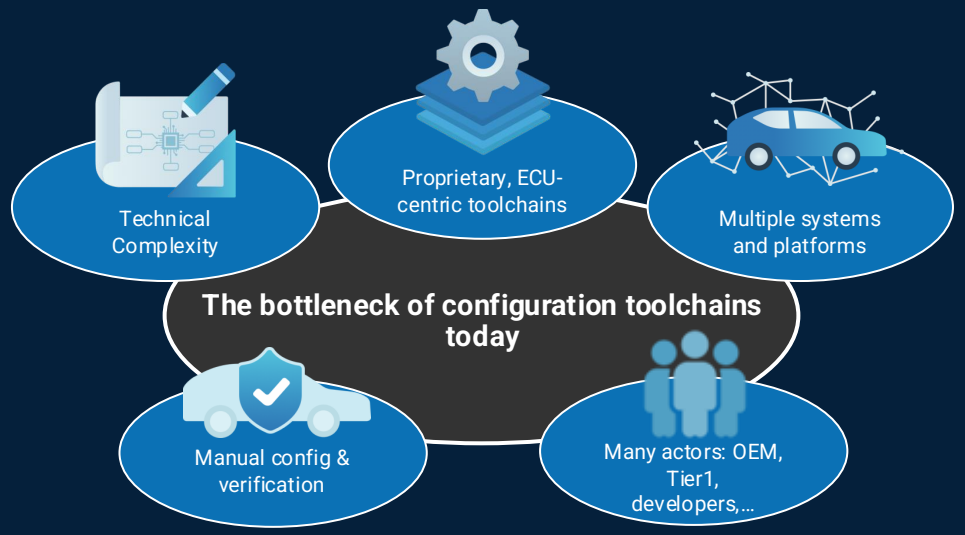
MOTIVATION
WHAT HOLDS US BACK?



Consequences

- Time consuming with manual steps
- Costly proprietary solutions
- Poor automation and no systematic reuse
- Complex maintenance and compatibility

MOTIVATION
WHAT DO WE WANT?



- **Faster than current solutions**
  Aiming to reach “China's development pace”
- **Automated and CI/CD friendly**
  No manual configuration steps
- **Modern, config-as-code**
  Versioned, reviewable, and declarative
- **Single source of truth**
  One format, one model for everything
- **Open-source & license-free**
  No vendor lock-in, open collaborative ecosystem

MOTIVATION
WHAT IS AVAILABLE TODAY?

	DBC	LDF	FIBEX	ARXML	Franca IDL	YANG models
CAN support	Yes		Yes	Yes		
LIN support		Yes	Yes	Yes		
Automotive Ethernet support			Yes	Yes	Partial	Partial
SOME/IP support			Yes	Yes	Yes	
(PDU) Gatewaying support			Partial	Yes		
Automotive Software support			Partial	Yes	Partial	A bit?
Diagnostics support				Yes		
Specification	Vendor	ISO	ASAM	AUTOSAR	COVESA	IETF, …
Active Development	Yes?	Yes	No	Yes	No?	Yes
Config-as-code compatible	Medium	High	No	No	High	High
Open-source compatible	Yes	(Yes)	(Yes)	No	Yes	Yes

→ These solutions come with limitations and/or gaps!

MOTIVATION
WHAT IS AVAILABLE TODAY?

	DBC	LDF	FIBEX	ARXML	Franca IDL	YANG models
CAN support	Yes		Yes	Yes		
LIN support		Yes	Yes	Yes		
Automotive Ethernet support			Yes	Yes	Partial	Partial
SOME/IP support			Yes	Yes	Yes	
(PDU) Gatewaying support			Partial	Yes		
Automotive Software support			Partial	Yes	Partial	A bit?
Diagnostics support				Yes		
Specification	Vendor	ISO	ASAM	AUTOSAR	COVESA	IETF, …
Active Development	Yes?	Yes	No	Yes	No?	Yes
Config-as-code compatible	Medium	High	No	No	High	High
Open-source compatible	Yes	(Yes)	(Yes)	No	Yes	Yes

→ These solutions come with limitations and/or gaps!

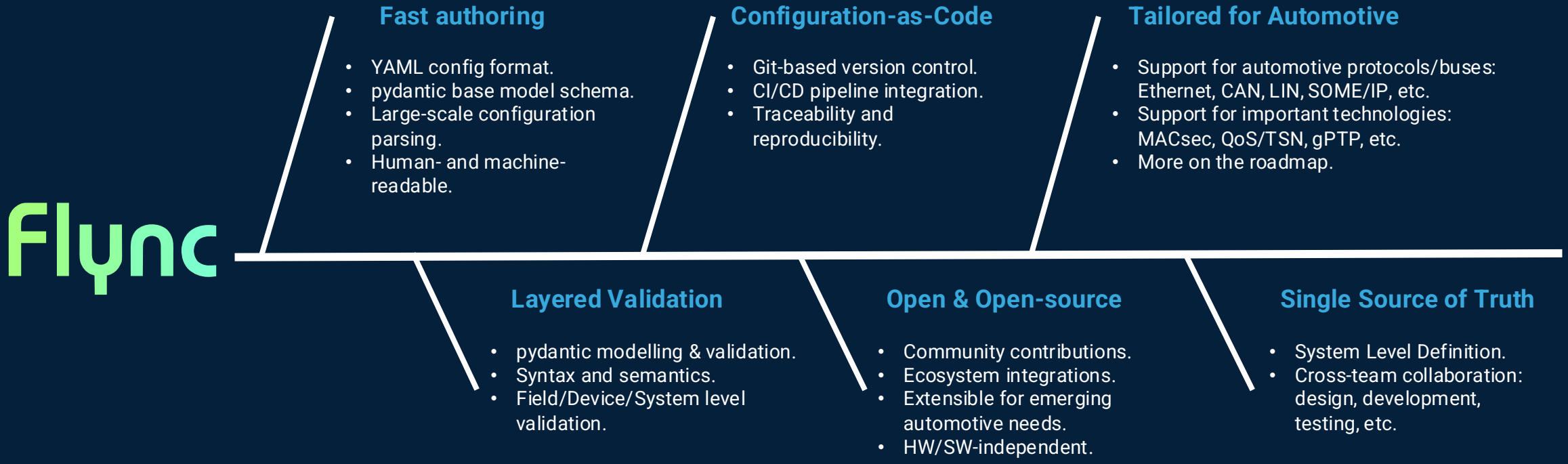
#2 | FLYNC: ACCELERATOR FOR SDV SOLUTION

technica engineering
Member of KPIT Group

FLYNC

OPEN-SOURCE PLATFORM FOR SDV CONFIGURATION

technica engineering
Member of KPIT Group



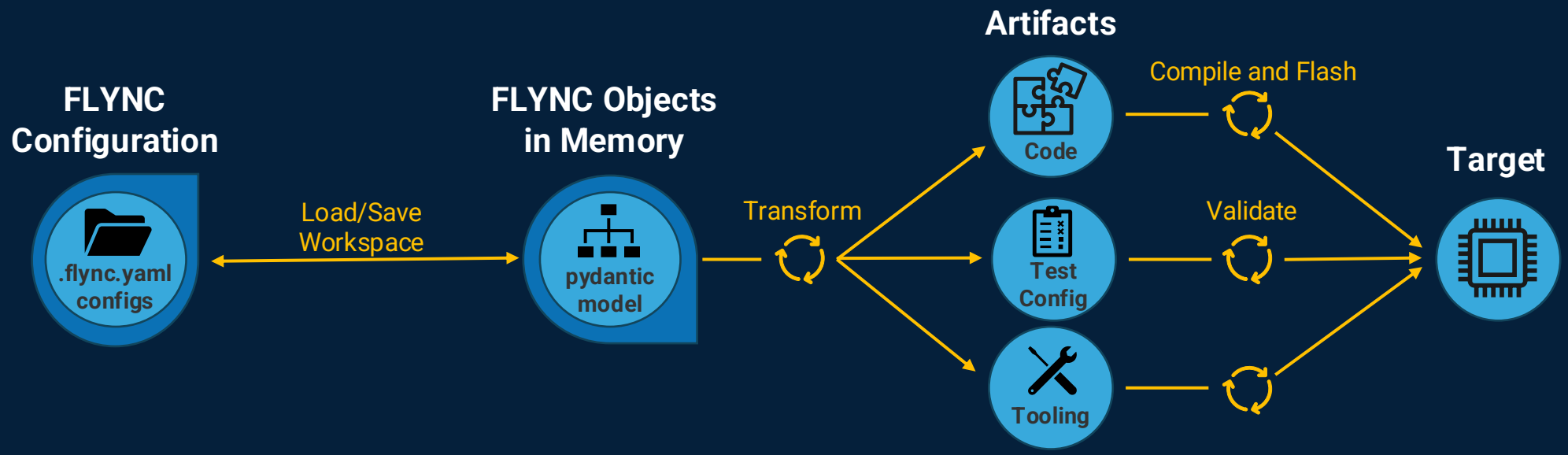
FLYNC
BENEFITS

- What FLYNC is not:
  - Not just a meta model or format (like YANG, JSON, YAML, or TOML).
  - Not just a combination of different, independent models.
  - Not geared towards a single stack or implementation.

- The FLYNC library provides a rich ecosystem:
  - Configuration meta-model library with extensive validation logic.
  - Cohesive models optimized for automotive usage.
  - SDK for configuration loading and validation.
  - Command-Line Interface (CLI) and format converters.

FLYNC

VISION: CONFIGURATION TOOLCHAIN/ECOSYSTEM



Code

- Applications, SOME/IP Services
- openBSW
- Switch Software Stack
- Linux (ptp4l, networkd-system, iptables,)
- Simulations
- and others

Tooling

- ARXML converter (no open-source due to license)
- FIBEX, DBC converter
- Language Server
- Model visualizers
- Wireshark configurations
- ...

Disclaimer: not all features can/will be released as open-source. Additional commercial tooling will be available.

technica engineering
Member of KPIT Group

#3 | FLYNC: ACCELERATOR FOR SDV

FLYNC DEVELOPMENT

FLYNC DEVELOPMENT

FLYNC RELEASE HISTORY

2025Q2

Coverage:
- Switch configuration
- Ethernet Topology description

2026-02

Highlights:
- Ethernet, Switch, QoS/TSN, PTP.
- TCP/IP, Sockets.
- SOME/IP and SOME/IP-SD
- Security: MACsec, Firewalling.

2026-04

Highlights :
- SOME/IP Timings
- SOME/IP E2E Profiles.
- Multicast Group description.

2026-05

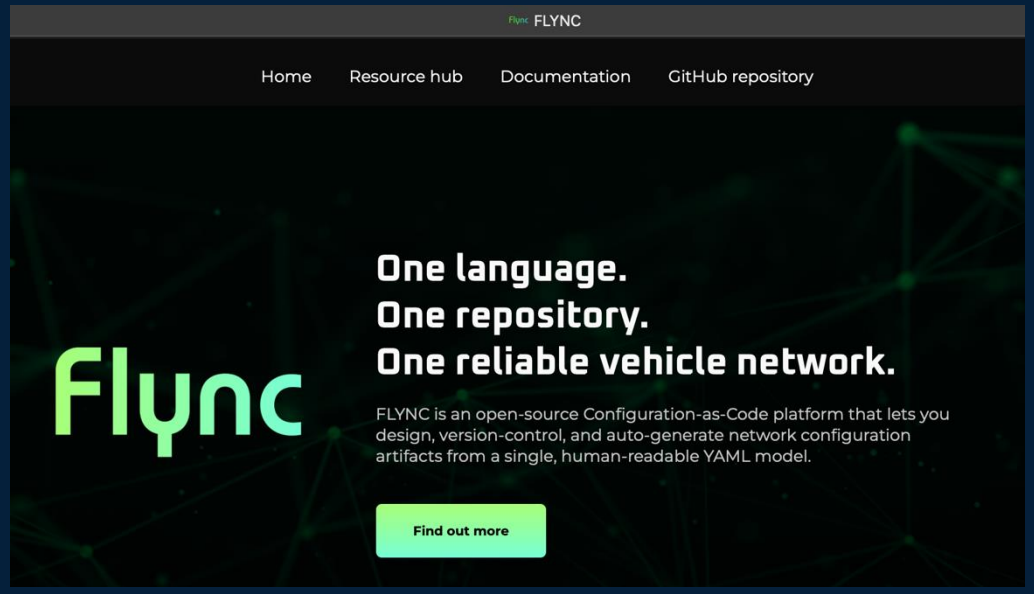
Highlights :
- Support for Signals, PDUs, frames.
- CAN(-FD), LIN, Eth PDUs.
- IP Router
- MAC layer Multicast Endpoints.

2026-06

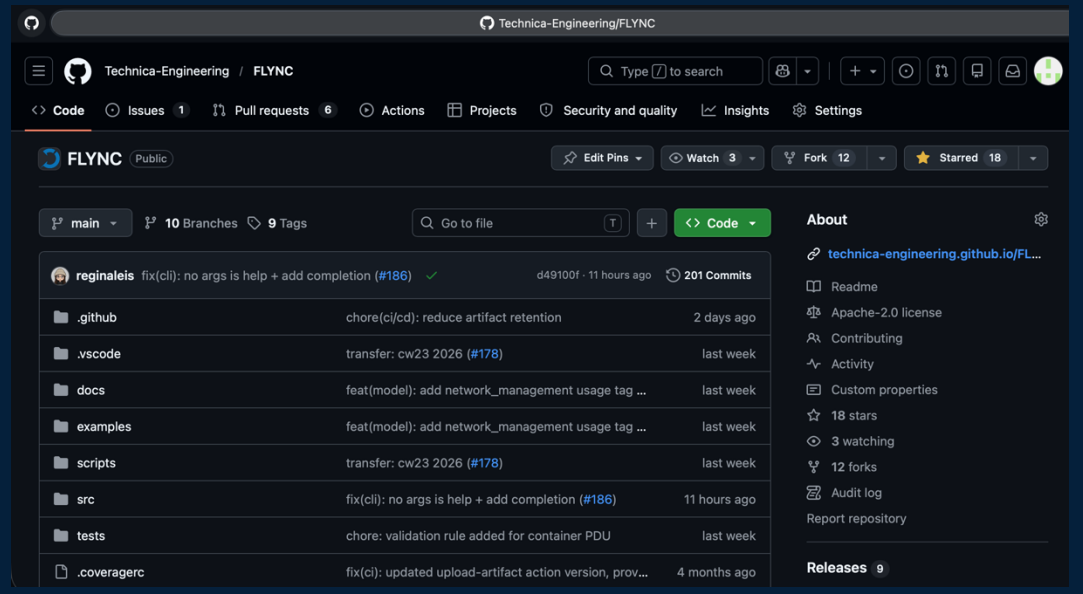
Highlights :
- Gatewaying.
- First NM.
- FLYNC CLI.
- FLYNC Converter.

FLYNC DEVELOPMENT

WHERE DO YOU GET FLYNC?



https://www.flync-language.com



https://github.com/Technica-Engineering/FLYNC

FLYNC DEVELOPMENT
IN THE PIPELINE…

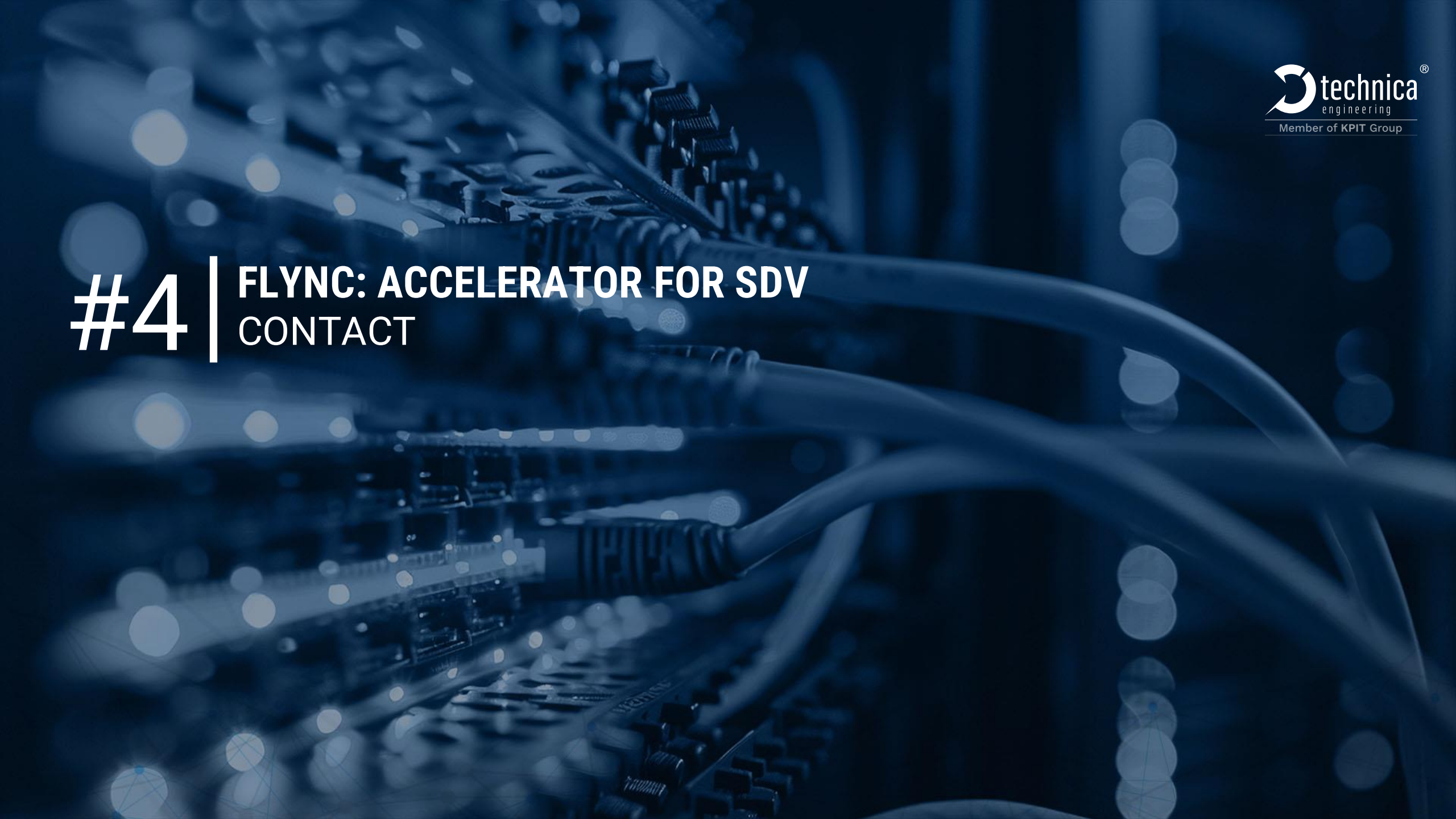
- Soon:
  - Security Features (ACLs, etc.)
  - More NM and State Management
  - Applications
  - I/O Hardware
  - Measurement and Testing
- A bit later:
  - Diagnostics
  - Timesync over CAN
  - FlexRay
  - J1939
  - …

Disclaimer: Roadmap might change without notice.

FLYNC DEVELOPMENT

THE NEXT CHAPTER OF FLYNC.

- FLYNC development is evolving and with partners joining, it is time for FLYNC to get a bigger “home”.
- Vector Informatik and Technica Engineering are working on moving FLYNC to a new Open-Source project.
- Stay tuned!



technica engineering
Member of KPIT Group

#4 | FLYNC: ACCELERATOR FOR SDV
CONTACT

Technica Engineering GmbH
Leopoldstraße 236
80807 Munich
Germany

DR. LARS VÖLKER
Technical Fellow
lars.voelker@technica-engineering.de

IAGO ÁLVAREZ OLCINA
Lead Engineer
iago.alvarez@technica-engineering.de

