

ARROWHEAD fPVN NEWSLETTER

From promising concepts to working industrial systems

INDUSTRIAL INTEROPERABILITY IN THE FINAL PROJECT PHASE · SPRING 2026 EDITION

WELCOME

Secure exchange, dependable service selection and systems that can interpret one another's data are no longer distant ambitions. Arrowhead fPVN has entered its final project phase with practical developments that engineers can inspect, test and adapt. This edition brings together recent technical work, industrial validation and the last steps before the project's final event in Norway.

IN THIS EDITION

- Edge intelligence, Quality of Service and API security
- Model-based engineering and semantic alignment
- Industrial deployment, training resources and the June final event



"Transformative, autonomous and evolvable information interoperability for resilient production value networks"

45

PARTNERS ACROSS EUROPE

7

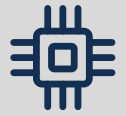
INDUSTRIAL USE CASES

3

TECHNOLOGY PILLARS

TECHNOLOGY UPDATE

TECHNICAL WORK, READY FOR CLOSER INSPECTION



The latest technical contributions focus on the details that determine whether distributed industrial systems can be trusted in day-to-day operation: processing data close to its source, selecting services according to quality requirements and securing the interfaces through which systems exchange information.



PERCEPTA: LIGHTWEIGHT STREAM PROCESSING FOR EDGE AI

Percepta supports real-time processing of continuous data streams on constrained edge devices. By keeping computation closer to sensors and equipment, it can reduce latency and dependence on central infrastructure while supporting scalable deployments across multiple edge nodes. The work is especially relevant to industrial IoT, real-time monitoring and distributed AI applications.

[Read the full project article](#) →



QUALITY OF SERVICE IN ECLIPSE ARROWHEAD 5

Service discovery answers which providers are available; Quality of Service helps decide which provider is the right one at a particular moment. Arrowhead 5 allows QoS requirements to be included in orchestration requests and uses evaluator systems to filter or rank providers according to performance, reliability, availability and other domain-specific criteria.

[Read the full project article](#) →

WHY THIS MATTERS TOGETHER

Percepta and QoS orchestration address the same industrial reality from two different angles: one keeps processing close to where data is generated, the other ensures the right service is selected once that data needs to move. Together they make distributed systems more responsive and more predictable under real operating conditions.

FROM SECURE INTERFACES TO LIVE OPERATION



API SECURITY BEGINS WITH ARCHITECTURE

As industrial applications become more distributed, every API creates both a data bridge and a potential point of exposure. The project's recent technical session examined least privilege, zero-trust principles, access-control models and the role of security gateways. Its central message is practical: secure-by-design decisions must be made before an interface is deployed, not added after a weakness appears.

[Read the full project article](#) →



ROSLAGSVATTEN PUTS A PROJECT-DEVELOPED INTEGRATION SERVICE INTO PRODUCTION

Roslagsvatten has moved an integration service developed with Granitor Systems and Sinetiq into live operation. The service uses standardised interfaces and data models to simplify information exchange between systems. It is an important validation point for Arrowhead fPVN: project technology is not only being demonstrated, but is supporting a real operational environment.

[Read the production deployment story](#) →

WHAT CONNECTS THESE DEVELOPMENTS?

Each contribution reduces friction between independently built systems while keeping operational constraints visible. Interoperability is useful only when it remains efficient, predictable and secure under real industrial conditions.

FROM ARCHITECTURE TO PRACTICE



A SYSMLV2 LIBRARY FOR SERVICE-ORIENTED ARCHITECTURES

At the OMG Technology Meeting in Reston, work from Arrowhead fPVN and AIMS5.0 was presented through a SysMLv2 library for service-oriented architectures. The work builds on the Arrowhead Domain Specific Language, supports the transition from SysML v1.6 to SysML v2 and explores closer links with ISO 23726-3. The aim is to make complex system design, integration and lifecycle decisions easier to express and reuse.

[Read the full project article](#) →



PILOT USE CASES IN FOCUS

- **UC 1.6 — Industrial Data Integration and Interoperability:** seamless data exchange between heterogeneous industrial systems through service-oriented architectures and microservices.
- **UC 1.7 — Cross-System Communication and Automation:** standardised interfaces and orchestration mechanisms that let distributed components interact dynamically.
- **UC 1.9 — Advanced Interoperability in Industrial Ecosystems:** semantic translation capabilities so systems with different data models can understand each other.

FROM DESIGN TOOLS TO REAL DEPLOYMENTS

The SysMLv2 library gives engineers a common language for describing service-oriented architectures before they are built; the pilot use cases show what happens once those designs meet live industrial systems. Together they close the loop between model-based engineering and field-tested interoperability.

KNOWLEDGE TRANSFER

BUILDING ROUTES INTO ADOPTION



The project's technical videos now cover framework configuration, service registration, orchestration, authorisation, data exchange, model-based engineering and semantic interoperability. Training on Ontology-Based Interoperability (OBI) and the Industrial Data Ontology (IDO) gives participants a structured route into ISO 23726 and the practical construction of modular industrial ontologies.

- Implementation-oriented demonstrations for engineers, developers and system architects
- OBI-IDO sessions combining conceptual foundations with practical modelling work
- Reusable project presentations and materials available through the website and open channels

A PRACTICAL SIGN OF MATURITY

The project is increasingly communicating through demonstrations, production examples and reusable learning material. That shift matters: it gives external teams enough context to judge where Arrowhead technologies fit their own systems.

STANDARDS & OUTREACH

ALIGNED ON PAPER, PRESENT ON THE ROAD



Arrowhead fPVN works toward consistent interpretation across engineering, operations and maintenance systems by aligning five major industrial data standards — so that a pump described in one standard can be understood by another system without losing the meaning needed for downstream decisions. The final phase continues this collaboration across industrial data communities, reducing translation errors and making cross-domain reuse more realistic.

ISO 23726-3 (IDO)

STEP

CFIHOS

DEXPI

ISO 15926-4



On the road across Europe

Between January and May 2026, Arrowhead fPVN kept up a steady presence at industrial, academic and public-facing events, presenting the project's results to new audiences ahead of the June final event.

EVENT	DATE	LOCATION
HiPEAC 2026	January 2026	Kraków, Poland
ROHEALTH 2026	January 2026	Bucharest, Romania
Romtherm Construct Ambient 2026	March 2026	Bucharest, Romania
GREEN ENERGY 2026	March 2026	Bucharest, Romania
SpaceFEST 2026	May 2026	Bucharest, Romania
POLI International FEST 2026	May 2026	Bucharest, Romania
POLI AutoFEST 2026	May 2026	Bucharest, Romania



FINAL EVENT PREVIEW

COMING TOGETHER IN HØVIK



The Arrowhead fPVN final event will take place within the Industrial Semantic Interoperability Summit 2026, hosted by DNV in Høvik, Norway, from 9 to 11 June. The summit will bring together industry leaders, researchers, technology providers, standards organisations and decision-makers around a shared question: how can semantic interoperability strengthen industrial competitiveness in an AI-driven world?

- Project results and industrial implementation experience
- The frontier of digital standards for interoperability
- Hands-on workshops and discussion of real implementation barriers
- The planned creation of an Implementor Forum around ISO 23726 OBI

[Final event announcement →](#) | [Summit programme and information →](#)



Arrowhead fPVN on stage at HiPEAC 2026 in Kraków, Poland: the project's industrial roadmap for complex systems of systems, presented as part of the project's outreach ahead of the Høvik summit.

SAVE THE DATE



9–11 June 2026

Industrial Semantic Interoperability Summit, hosted by DNV in Høvik, Norway.

WHO SHOULD ATTEND

- Industry leaders & engineers
- Researchers & standards bodies
- Technology providers

CONTINUE EXPLORING

EVERYTHING STAYS OPEN, ON AND OFF THE PAGE



The website remains the main entry point for project news, public deliverables, technical presentations, videos and industrial results. The Innovation Catalogue connects Arrowhead technologies with use cases and value propositions so that future adopters can discover how the framework has been applied.

[Website](#) | [LinkedIn](#) | [YouTube](#) | [Innovation Catalogue](#)

Arrowhead fPVN is entering the final stretch of its funded phase with practical, field-tested results: edge intelligence, quality-of-service orchestration and secure-by-design interfaces that engineers can inspect and adapt today.

Secure exchange, dependable service selection and systems that understand one another's data are no longer distant ambitions — they are being validated in real industrial environments, with Høvik as the next meeting point for the community.

SEE YOU IN HØVIK

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