BDV BIG DATA VALUE ASSOCIATION
DATA LABS INITIATIVE

DATA LABS ECOSYSTEM MAPPING

	BDVA i-Spaces	European Digital Innovation Hubs	Data Spaces	AI Testing and Experimentation Facilities	AI Factories
Definition	Cross-sectorial and cross-organisational innovation hubs that bring together data sources, data driven and AI technologies, competence-related and all the technical, business and legal aspects needed to allow SMEs and start-ups to get their data-driven and AI-related services, products and applications quickly tested, piloted and exploited before going to the market. Ultimately, BDVA i-Spaces support SMEs and startups across Europe in their journey into the data economy.	One-stop shop supporting companies and public sector organisations to respond to digital challenges and become more competitive. Access to technical expertise and testing; providing innovation services, and helping companies tackle environmental issues.	Interoperable framework, based on common governance principles, standards, practices and enabling services, that enables trusted data transactions between participants. They allow data holders to retain control over their data while defining how it can be accessed, offered, negotiated and used, including conditions related to commercial provision, consent, usage rights, and compliance	Large-scale European infrastructures that provide a combination of physical and virtual environments where technology providers can test, validate, and demonstrate data-driven, AI-based, and robotics-enabled solutions under real-world conditions. TEFs support experimentation across key sectors (e.g. agrifood, manufacturing, healthcare, smart cities), enabling the assessment of performance, reliability, safety, and regulatory compliance of advanced digital systems prior to market deployment.	Dynamic ecosystems that foster innovation, collaboration, and development in the field of artificial intelligence (AI). They bring together computing power, data, and talent to create cutting-edge AI models and applications.
Relevance to Data Labs	Aimed at accelerating the take up of AI and data-driven innovation in commercial sectors, relying and building upon existing national and regional initiatives that play a central role in a European Data and AI ecosystem. BDVA i-Spaces are at the core of (or closely linked to) most other existing initiatives, like EDIHs, AI TEFs, AI Factories and Data Spaces. Specifically, BDVA i-Spaces can already provide access and connections with Data	Under the 2025 Apply AI Strategy, EDIHs are being transformed into Experience Centres for AI, serving as privileged access points for companies to the EU AI innovation ecosystem, with a strengthened role in helping SMEs, startups, and public sector organisations increase their digitalisation levels. EDIHs provide tailored, 1-on-1 support for companies navigating digitalisation. While AI has always been a	Data Spaces are designed to unlock the value of data by enabling secure and trusted data sharing across organisations, while respecting sovereignty and regulatory requirements. Data Spaces can provide Data Labs with access to governed, real-world, and distributed datasets. They act as the primary source of EU wide data under clear usage and consent conditions. Data Labs could build on this by transforming data	AI TEFs provide Data Labs with access to high-value, real-world experimental and validation data generated during testing and demonstration activities with SMEs and startups, but also with larger companies. This data is critical for improving data quality, enriching datasets, and supporting iterative AI development. Data Labs complement TEFs by providing high-quality, interoperable, and AI-ready datasets, as well as	AI Factories will be key instruments for bridging the gaps between compute and data, leveraging EuroHPC compute resources and supporting their connection to the Common European Data Spaces. The first data labs will be established under the AI Factories initiative through EuroHPC, providing secure environments and data services to connect AI developers with common European data spaces in areas such as healthcare,

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Relevance to Data Labs	Spaces. Additionally, BDVA i-Spaces can support the Data Labs (both within AI Factories and future independent Data Labs) with core services for data quality, ecosystem networking, and support and training to SMEs in their usage of data for AI.	core pillar of the EDIH mandate, these hubs are gearing up for a critical role in 2026: helping organisations navigate the full enforcement of the EU AI Act. EDIHs are designed to help bridge the adoption gap, assisting with the most common challenges such as lack of expertise, lack of funding and legal compliance, addressed through their standard service categories.	coming from Data Spaces into interoperable, high-quality, and AI-ready assets for AI development, testing, and deployment.	data preparation and transformation services that support testing, validation, and benchmarking activities. Together, TEFs and Data Labs bridge the gap between AI development and real-world deployment, enabling a more efficient and data-driven transition from experimentation to market.	manufacturing, energy and climate, and expanded to languages, cybersecurity, and cultural heritage.
Similarities, differences, complementarities, synergies	Clear alignment between the existing portfolio of i-Spaces services and what Data Labs are expected to offer. The current portfolio of services of a BDVA -Space includes: experimentation environments; technology for data management; infrastructure/data provisioning; tech/legal/business consultancy, training and support; access to finance and networking (potentially extended with synthetic data generation for data enrichment). In the cases of BDVA i-Spaces as coordinators or key players in AI Factories, they will be	EDIHs serve a dual function in relation to Data Labs. Firstly, they act as an entry point, diagnosing organisational needs and directing them to the specialised services offered by Data Labs. This mirrors the existing connection between EDIHs and broader EU infrastructure, where EDIHs act as brokers and networkers, connecting end-users with specialised technical facilities. Secondly, as EDIHs provide services themselves and map digital maturity, they discover and generate new data sources. Their role is therefore also to feed these sources back into the Data	Beyond enabling data transactions, Data Spaces increasingly provide value-added services as part of their evolving business model. In this context, Data Labs can be seen as a service layer that connects Data Spaces with the AI applications. Data Labs can offer specific services to Data Spaces, by processing and transforming their data to make them interoperable, high quality, and AI ready, enabling their effective use for AI development and experimentation beyond their original scope. On the one hand, Data Spaces provide Data Labs with	AI TEFs generate valuable data through real world experimentation, hence they can act as data provider to Data Labs. Complementarily, Data Labs can support AI TEFs by providing access to high quality, interoperable, and AI ready datasets, together with data transformation and preparation services. With Data Spaces providing the required layer for governance, consent, and usage rights for secure sharing, together Data Labs and TEFs form a continuous loop from data preparation to validation and improvement, supporting a more efficient path from AI	Initially, Data Labs will be integral parts of the AI Factories initiative, federating data from different AI Factories covering the same sectors and linking it to Common European Data Spaces, while also helping companies share data and turning fragmented data sources into a trusted and accessible resource for AI development.

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Similarities, differences, complementarities, synergies	already fully involved in some of the first sectorial Data Lab within the AI Factories.	Labs, enriching the available data pools for future AI training and experimentation. Therefore, synergies are substantial: EDIHs bring territorial reach, sectoral domain knowledge, and established trust with SMEs; Data Labs bring curated, AI-ready data assets and regulatory infrastructure.	access to governed, real world, and distributed data across organisations, ensuring secure and compliant sharing through governance, consent, and usage rights. Together, Data Spaces and Data Labs enable a seamless flow from secure data access to data use/reuse, forming a key part of the European data and AI value chain.	development to real world deployment.	
Overlapping, barriers, challenges	BDVA i-Spaces share some similarities with the EDIHs, mostly about mission and services, although i-Spaces have a more cross-sectorial focus versus the usual domain-specific focus in EDIHs (actually most i-Spaces are also EDIHs). So similarly to EDIHs, there might be some overlap between the catalogue of services offered by the BDVA i-Spaces and the Data Labs, which in the limit might entail that some i-Spaces can fully work as Data Labs. The first main challenge here would be to establish a process / labeling to recognise those i-Spaces as Data Labs, and	Both EDIHs and Data Labs provide AI capabilities to organizations, although from different perspectives. A potential overlap comes from services that EDIHs already offer around data (data engineering expertise and support to identify or prepare datasets). A significant gap is that the formal coordination mechanism between EDIHs and Data Labs is not yet operationalised; it exists as policy intent but not as a standardised referral pathway. What is needed to close the gap is a formalised referral protocol between them and joint governance agreements	Data Labs and Data Space actors should be part of a shared or interoperable governance framework, ensuring consistent enforcement of data rights, consent, and usage conditions. Data providers may be hesitant to delegate processing to Data Labs, preferring to retain full control over what is shared versus kept confidential. Some organisations may perceive Data Labs as intermediaries, or even potential competitors, raising concerns around business confidentiality and trust. Suitable agreements for	Data generated within TEFs is often sensitive, proprietary, or linked to specific customers, which may limit its reuse within Data Labs. Lack of standardised agreements and frameworks for sharing TEF-generated data with Data Labs (including IP, liability, and usage rights). Misalignment between TEF operational models (customer-driven, project-based) and Data Lab models (data curation, reuse, and scaling). Limited incentives for companies to allow reuse of experimental data beyond the initial testing purpose.	Data Labs are formally conceived as components embedded within AI Factories. Both share the same strategic objective (enabling European AI development) and operate targeting the same primary users. However, AI Factories provide compute (GPU-optimised supercomputing, EuroHPC infrastructure, model training and inference pipelines), while Data Labs provide the data services (pooling, curation, labelling, anonymisation, and regulatory guidance) that transform raw sector-specific data into AI-ready assets. Some overlap appears as some AI

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Overlapping, barriers, challenges	then for these i-Spaces to align their offer with the needs and requirements of AI Factories (e-g. playing the intermediary role between them and SMEs/Data Spaces).	that clarify liability, IP, and service scope.	data exchange with Data Labs should be designed as part of the overall Data Space governance framework Lack of clear economic incentives for data sharing may limit participation and data availability. Fragmentation across Data Spaces and varying governance models may hinder interoperability and scalability.	Heterogeneity of TEF data (context-specific, non-standardised) may require significant effort for integration into Data Labs. Need for clear governance alignment with Data Spaces to enable secure and trusted data flows between TEFs and Data Labs.	Factories have already been offering data services. To work together effectively common data governance frameworks (licensing, quality standards, FAIR/DCAT-aligned metadata), secure access protocols that allow cross-factory data flows, and integration with sector-specific Common European Data Spaces via standardised APIs is needed.