Ecosystem Development for Responsible AI Implementation

Microsoft Cloud for Healthcare

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ESC
European Society of Cardiology

Microsoft

Our mission is to empower every person and every organization on the planet to achieve more

Mission starts with our dedication to create an efficient and connected healthcare ecosystem

Provider

Payor

Pharma

MedTech

VISION

From any point in the health care system, information related to a person's diagnosis and therapy can be

- enriched with **up-to-date information** from research and science to improve treatment and outcomes,
- subject to **surveillance** in order to record changes in the health status of a population and enable research,
- **opportunities for participation** opened up to people by breaking down communicative or social barriers and information asymmetry

STRATEGY

Scalable, interoperable infrastructures are being built that meet all aspects of data protection and data security as well as every legal requirement:

- The **Microsoft Cloud for Healthcare** is an umbrella term for scalable services and functions that are hosted on Microsoft Azure and build interoperability in healthcare within the EU.

- A **medical language infrastructure** enables a new human-machine interface that can be accessed through products, software development kits (SDK) or accessible programming interfaces (API).

- A **multimodal artificial intelligence infrastructure** with Copilot and Azure AI Services that makes proprietary or open-source AI models available at the bedside in the areas of vision, speech, language or content safety with clinical guardrails.

EXECUTION: Digital and AI Transformation Architecture

Interoperability for Health

Interoperability for HLS specific systems with re-useable Microsoft and Partner components.

Data Lake

Data stored in raw form and transformed to industry common models using both Microsoft, partner, and custom transformation p

Data Governan

Microsoft Purview prov es data governance acr ntire data estate.

Health Data Services

FHIR and DICOM S built on the Data Lake foundations

Health AI Services

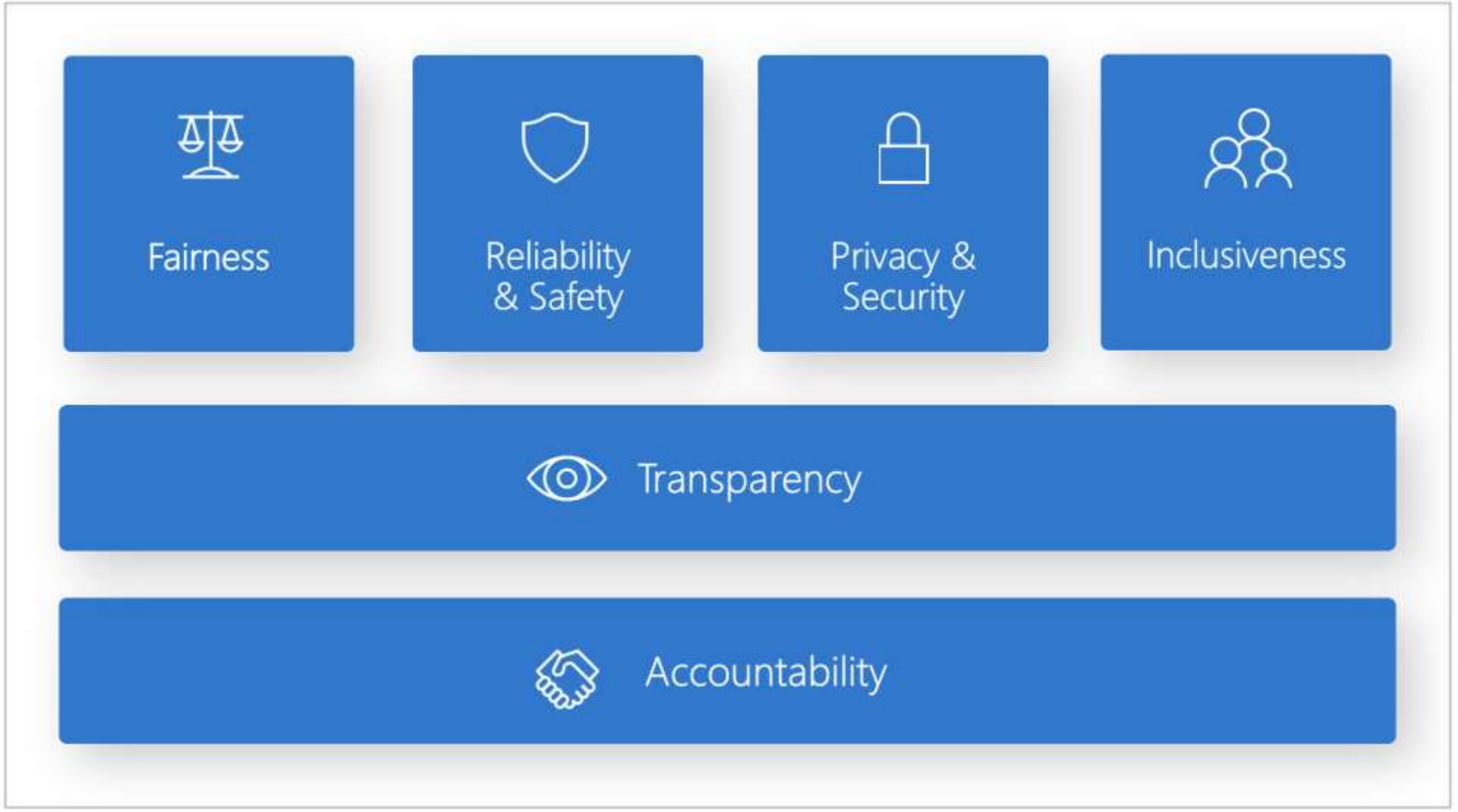
Data is infused with AI services to enrich the data and also provide layer of intelligence interaction with consumer.

Power Platform

Apps can access and update data using a low-code/no code platform.

CLOUD

Responsible AI Principles



Microsoft. (2025). Responsible AI principles and approach. Microsoft. Retrieved March 21, 2025, from https://www.microsoft.com/en-us/ai/principles-and-approach/

Trustworthy and Responsible AI Network (TRAIN)

1. **IDENTIFICATION AND REGISTRATION**
   Can you identify all the AI you have running in your organization today?

2. **LOCAL TESTING**
   Are you testing the AI on your local data sets, both pre- and post-deployment?

3. **BIAS ASSESSMENT**
   Are you assessing for bias in the AI, and what measures are you applying to mitigate the bias?

4. **GOVERNANCE**
   Do you have a scalable governance process in place?

EUROPE'S PARTICIPANTS

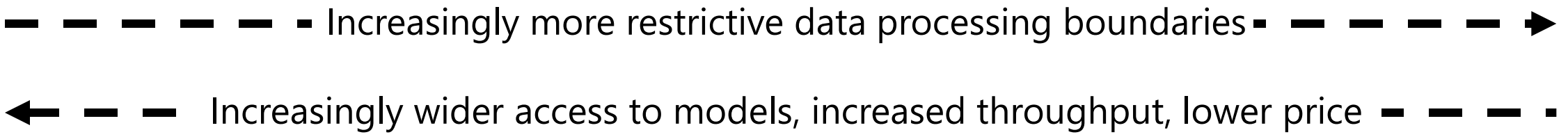
1. European Federation for Medical Informatics
2. Helsinki University Hospital
3. Sahlgrenska University Hospital / Academy
4. KPMG
5. Vita-Salute San Raffaele University, Milan
6. Medical University of Vienna
7. University Hospitals of Leicester
8. UMC Utrecht
9. Erasmus Medical Center
10. French Ministry of Health
11. Karolinska University Hospital
12. King Saud University Medical City, Riad
13. University Medical Center Groningen
14. Microsoft Global Health and Life Sciences team

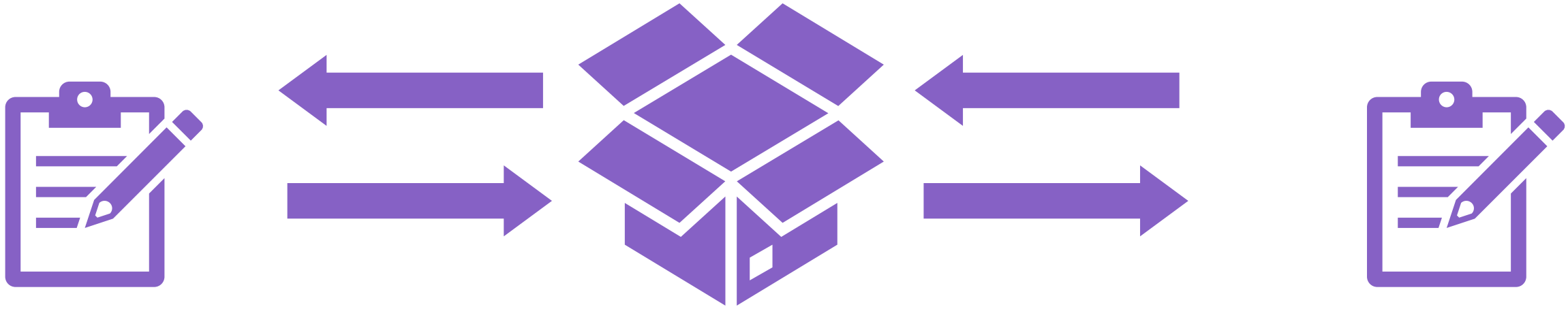
Train4Health. (2025). Train4Health. Retrieved March 21, 2025, from https://train4health.ai/

Azure Data Zones for a European Healthcare Ecosystem

Cloud for Healthcare

Global Deployment	Data Zone Deployment	Regional Deployment
Global	Geographic based (EU or US)	Local Region (27 regions)

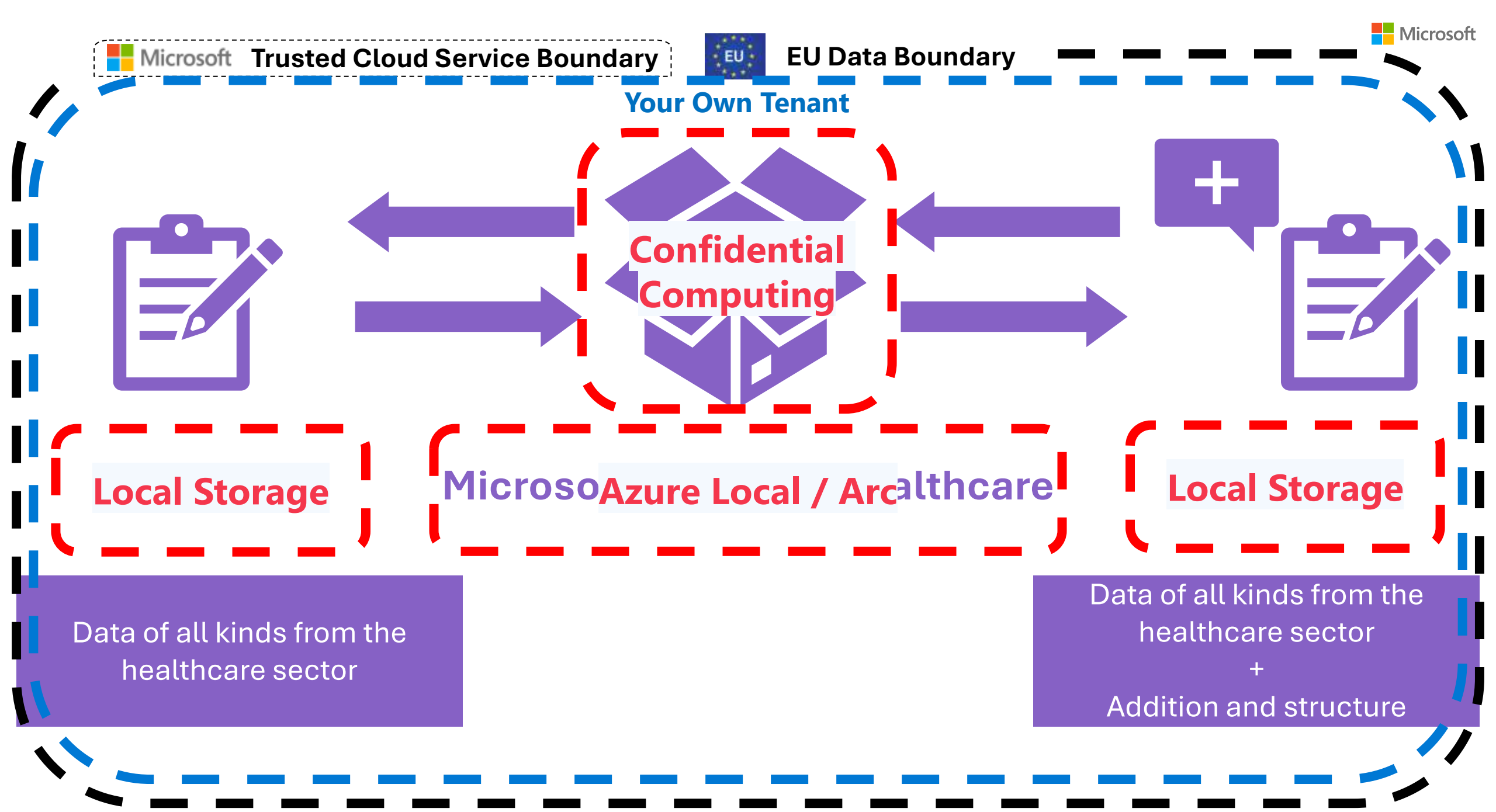




Microsoft Cloud for Healthcare

Data of all kinds from the healthcare sector

Data of all kinds from the healthcare sector
+
Addition and structure


Microsoft Trusted Cloud Service Boundary
EU Data Boundary
Microsoft
Your Own Tenant
Confidential Computing
Local Storage
Microso
Azure Local / Arc
althcare
Local Storage
Data of all kinds from the healthcare sector
Data of all kinds from the healthcare sector
+
Addition and structure

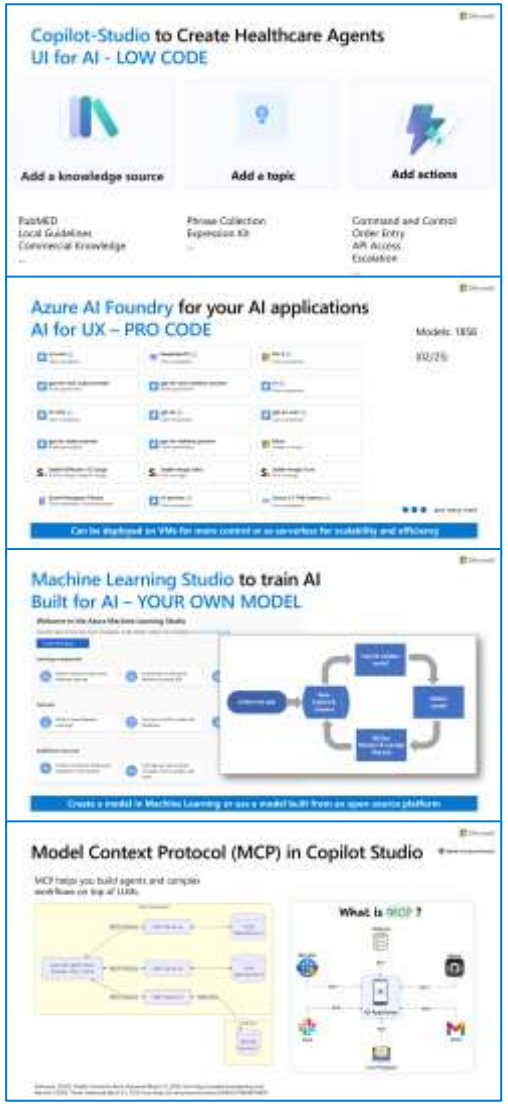
The Building Blocks of an Healthcare Ecosystem

1. **COPILOT STUDIO – UI for AI**
   Copilot Studio is a versatile platform designed to help users create, customize, and deploy AI-powered solutions.

2. **AZURE AI FOUNDRY – AI for UX**
   AI Foundry is a unified platform for building, deploying, and managing AI-driven applications.

3. **MACHINE LEARNING STUDIO – Built for AI**
   Machine Learning Studio is an environment for constructing and operationalizing machine learning workflows on Azure.

4. **The Model Context Protocol (MCP)**
   Open standard for standardized connections between AI models and various data sources.



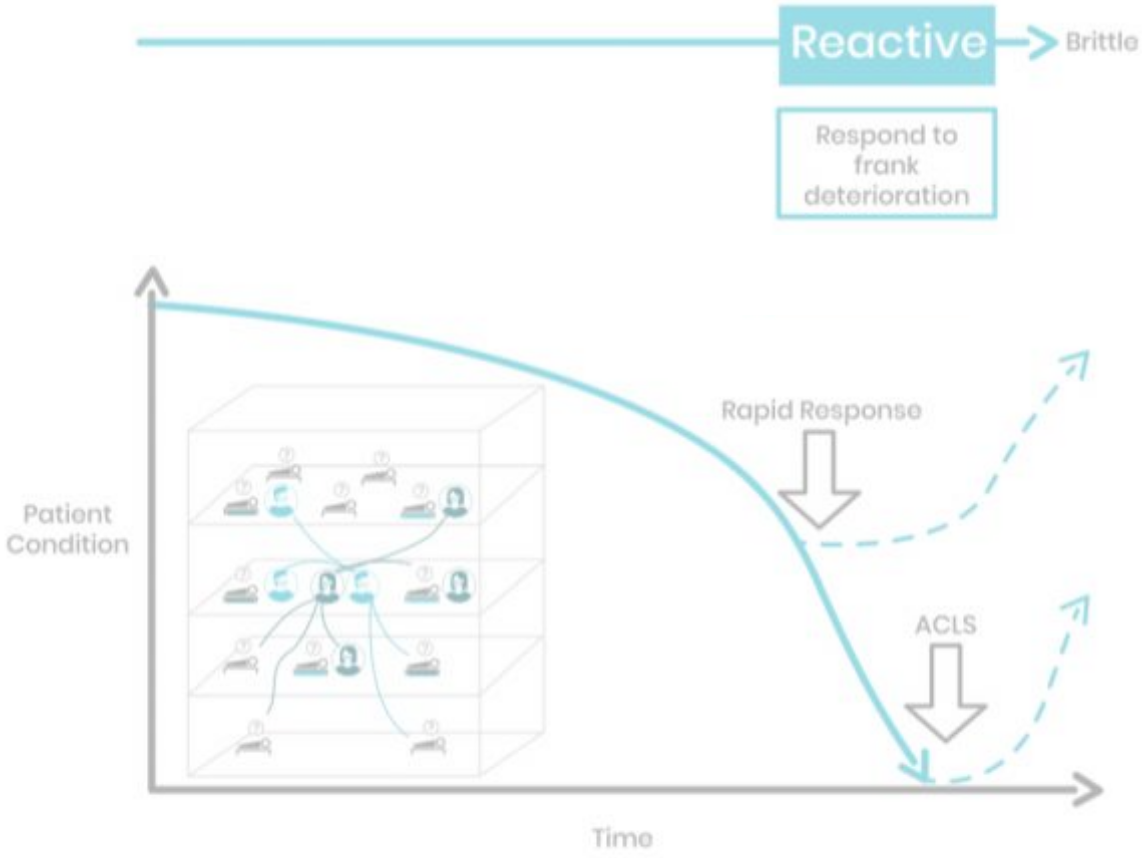
Clinical Safeguards Application Programming Interface (API)

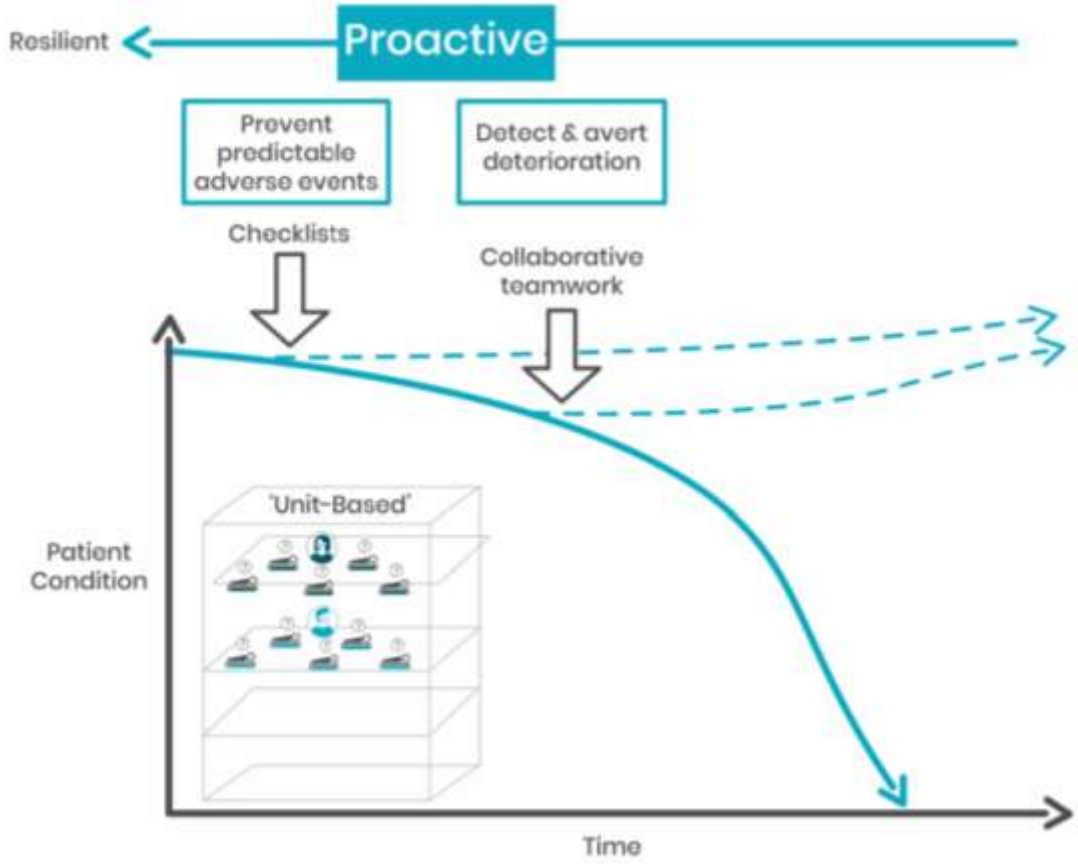
Currently the private preview includes 5 Clinical Safeguards ready to be used by 3P GenAI Applications/ Use Cases

1. **Detect Hallucinations and Omissions** – Clinical hallucinations and omissions detection
2. **Clinical Provenance** – Text source identification
3. **Clinical Codes Validation** – Verify clinical codes exist and relevant to context
4. **Clinical Anchoring** – Provide clinical context and concept identification to prompts
5. **Clinical Semantic Validation** – Verify LLM text conforms to known valid semantic structures

Clinical Safeguards API will be shipped via healthcare agent service

The goal of Clinical AI: From reactive care to proactive care





Concepts of AI in Healthcare supported by Microsoft Cloud for Healthcare

Common AI

Generalized, authoritative AI models from **professional organizations and public institutions**.

Institutional AI

Fine-tuned AI built for specific organizations, adapting to their data and policies.

On-Demand AI

Quick, specialized AI tools for immediate, logic-driven problem-solving.

AI for Healthcare

ESC
Cardiovascular Round Table

Microsoft

Imagine AI health companions that truly speak the local language of care, supporting every patient, nurse, and doctor. Together, we can build this vision - rooted in shared knowledge, powered by local insights, and connected through a unified data ecosystem. Let's bring health support to everyone, everywhere.

Thank You

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