Hitachi Social Innovation

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⊛ Hitachi Data Systems

Does your business run like Shinkansen?

- Japanese Bullet Train built by Hitachi
- Top Speed of 320 KM/h
- Interval of 3 minutes between trains
- Always on-time (<30 seconds late)

Does your business run like Shinkansen?

HITACHI INFORMATION CLOUD

HSDP

HITACHI TRAIN LINK SOFTWARE

Advanced Analytics provide real-time insight to diagnose problems proactively

VSP

Automated Actions –
- Schedule Maintenance
- Stop Train

Hundreds of Sensors stream 1TB of data per train per day providing real-time metrics on –
- Speed and temperature
- Wear, Weight, Hydralic Pressure

Does your business run like Shinkansen?

- **Fast**
- **Reliable**
- **Flexible**
- **Comfortable**
- **Economical**

最高機密

Internet of Things and Hitachi Social Innovation

Telco Analytics
- Service
- Performance
- Optimization

Connected Health
- Research
- Diagnostics
- Access

Connected Intelligence
- Public safety
- Traffic control
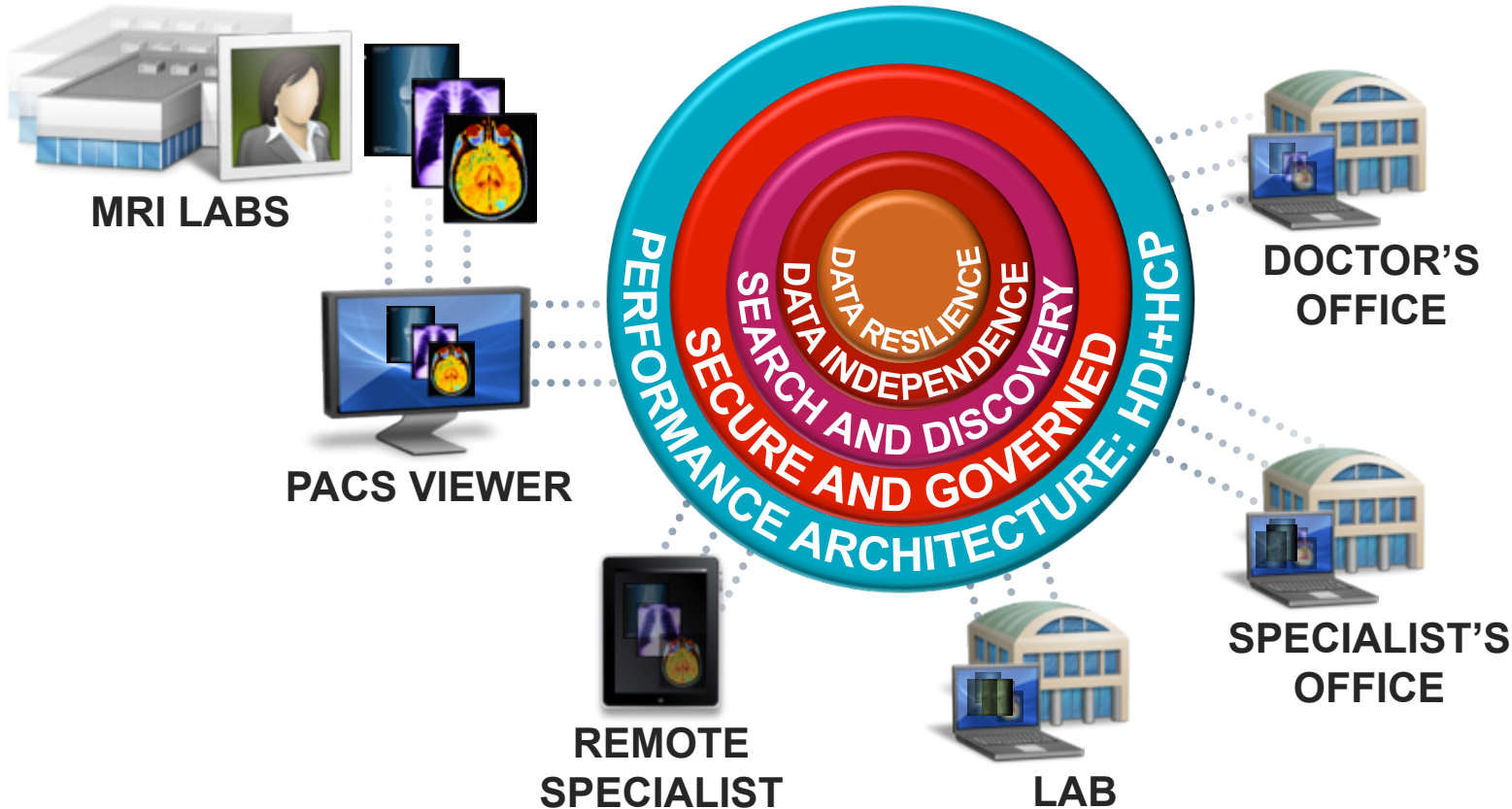- Emergency response

Connected Cars
- Efficient
- Personalized
- Safe

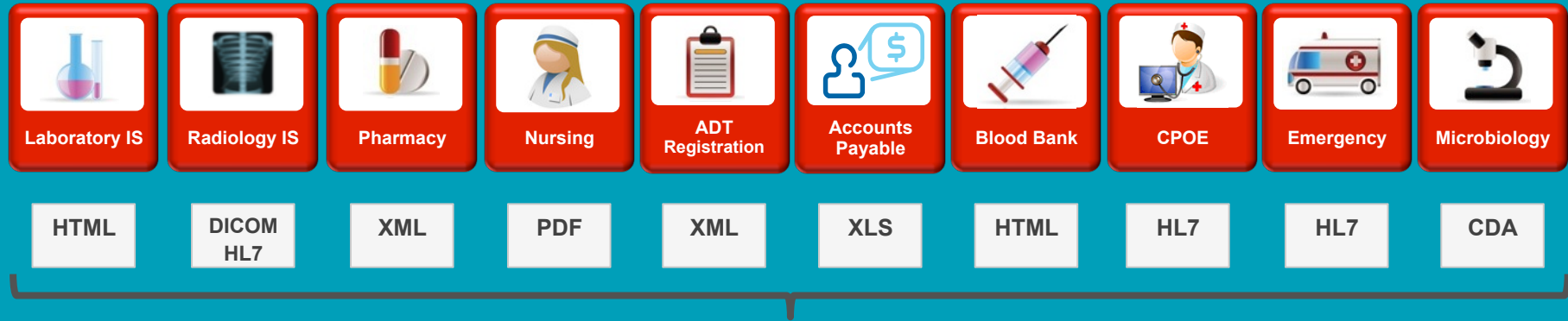**Connected Transportation**
- Safety
- Efficiency
- Maintenance

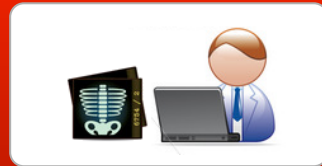# Hitachi Clinical Cloud for Patient-oriented Health Care

MRI LABS

PACS VIEWER

REMOTE SPECIALIST

LAB

DOCTOR'S OFFICE

SPECIALIST'S OFFICE

DATA RESILIENCE

DATA INDEPENDENCE

SEARCH AND DISCOVERY

SECURE AND GOVERNED

PERFORMANCE ARCHITECTURE: HDI+HCP

Metadata harmonization across an extensible Open Architecture makes this possible

Custom Metadata provides new perspectives enriching data

- Add customer metadata during ingestion or to already stored objects

- Integrate multiple disparate data stores and reduce need for object duplication

- Evolve index without a rebuild

- Perform richer searches and correlation with complex queries on a File System

- Support distributed searches

- Stored in XML for open access

Population Distribution

Government Listing

Land Usage Analysis

Geospatial Data

Water Table Variations

Elevation Deviations

customers

streets

parcels

elevation

land usage

real world
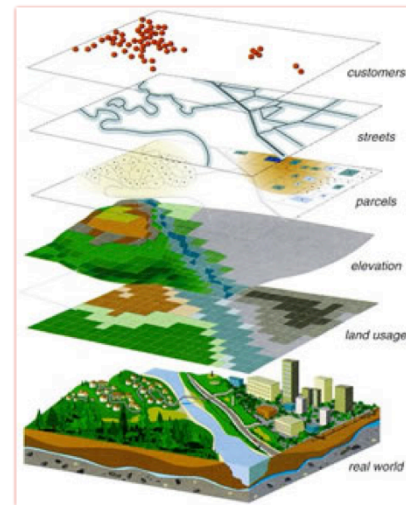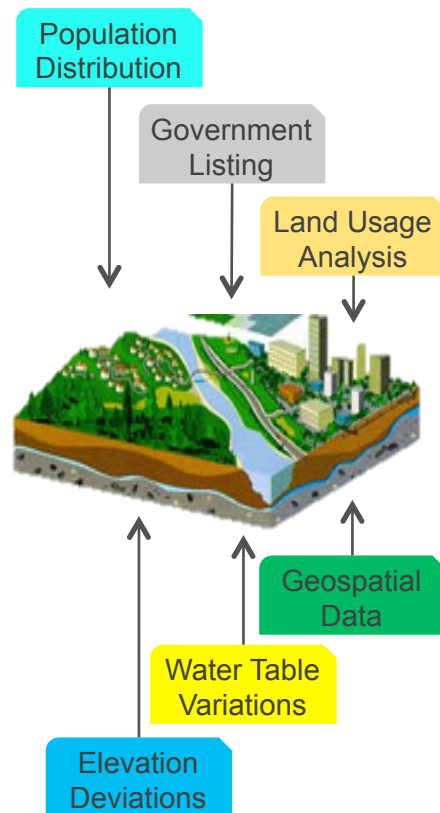
Wouldn't it be convenient to „recognize" metadata automatically?

- EMIEW is ready to help

- Uses visual recognition to greet visitors by name, guide them to their destination and even locate missing items

- Advanced voice recognition and natural language skills allow it to join conversations and even tell jokes ☺

- Automatic mapping of surroundings allows it to weave around people and navigate independently through corridors to deliver documents or pick up a cup of coffee

- Used as office help, nursing assistant, robot car and educating children with learning difficulties
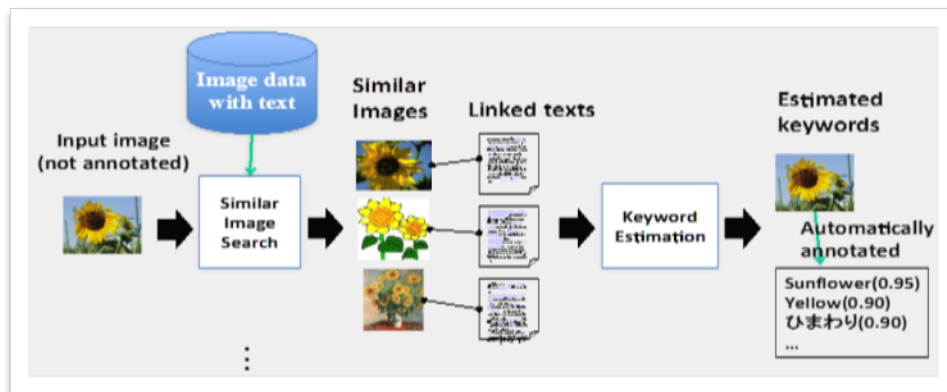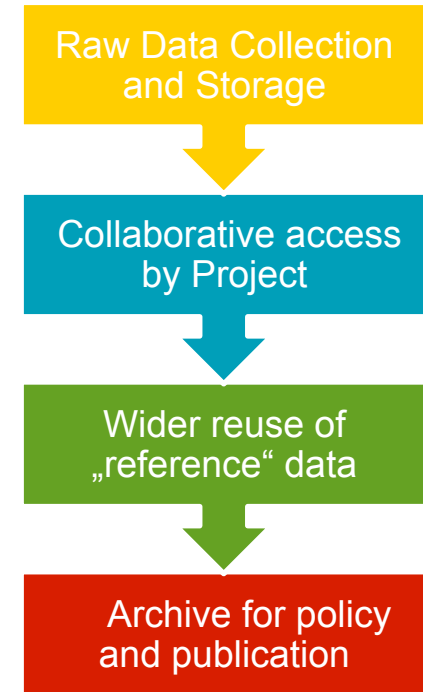
Opportunities for Visual Recognition
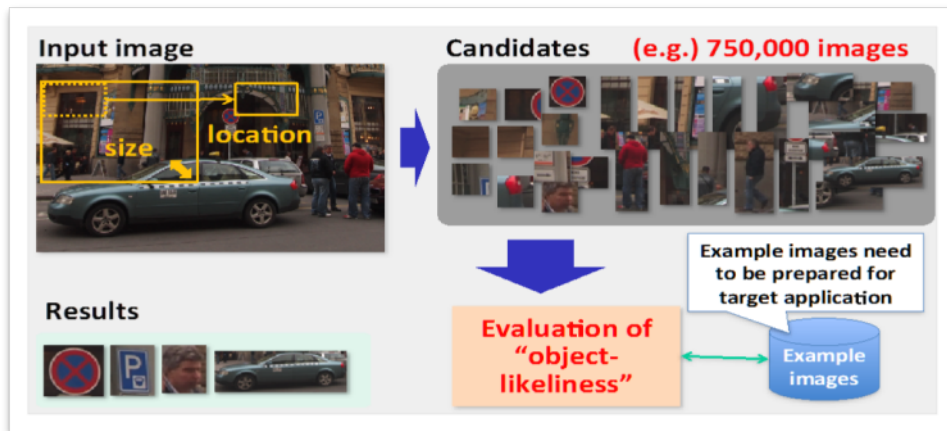
- EMIEW visualization used in surveillance systems

- Hitachi Research and Development exploring the use of visualization in information and content cloud

INTERSECT Global Research Cloud

- More than 30 applications available to more than 20,000 researchers in Australia, Europe and the United States

- From high-performance computer models of physical phenomenon to data-driven research in areas as diverse as gene sequencing, climate change and language use

- Multi-Tenant Security for protection

- Complex data types and diverse data sources requires fully automated information lifecycle management

- Open Software-Defined architecture ready for the future

Raw Data Collection and Storage

Collaborative access by Project

Wider reuse of „reference" data

Archive for policy and publication

Moravian Land Archive

- More than 60km of archived documents

- Includes property and birth and marriage registry for Moravia and Lower Austria for legal research

- Contains a historic collection of maps, drawings and pictures digitized to protect invaluable cultural heritage

- Built-in replication eliminates backup

- True Object Storage enables trouble-free compliant online migration to next generation storage technology

Archive Media Today

- Ultrastar® He10 3.5-Inch Helium Hard Disk Drive

  – 33% more capacity than 6TB "air" drives

  – 44% more power efficiency

  – 23% less power at idle

  – Superior Reliability

300 Million Year Archive Tomorrow

- Hitachi R&D Quartz Storage Prototype

- Data written with Blue-Ray recording density

- Data read with an optical microscope

- No power consumption

- Very stable material surviving 1000° C temperatures

- Suited for long-term storage
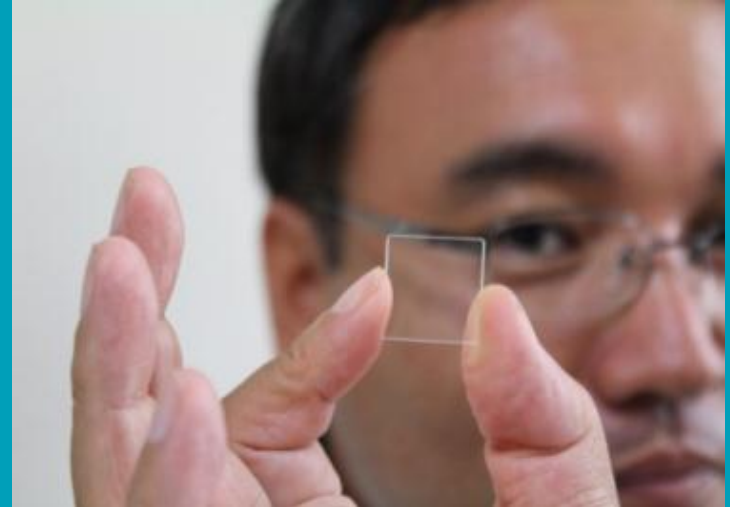
And for realtime computing in the future…..

- Hitachi R&D Phase Change memory demo

- 3,000,000 IOPS @ 1us. latency with DC-Express protocol

- (compare 25-80 us. NAND and PCIe 6 us. latency)
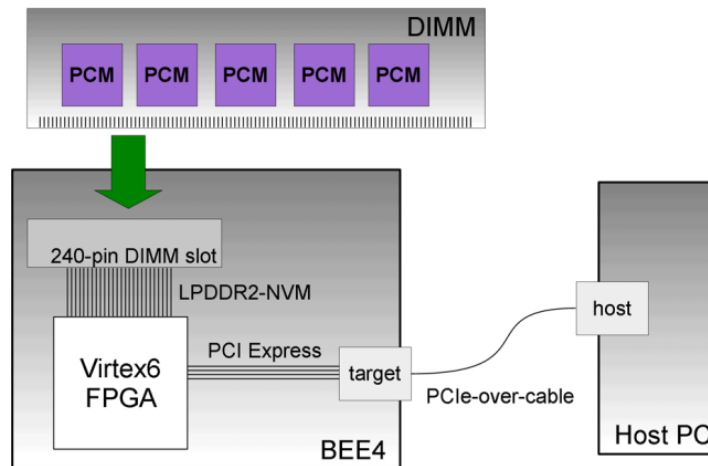
"The farther back you can look, the farther forward you are likely to see"

Sir Winston Churchill

Hitachi Social Innovation Business

Innovative Technology that integrates big data, analytics, and industry expertise for a healthier, safer, smarter society

Thank You

HITACHI
Inspire the Next

◎**Hitachi Data Systems**