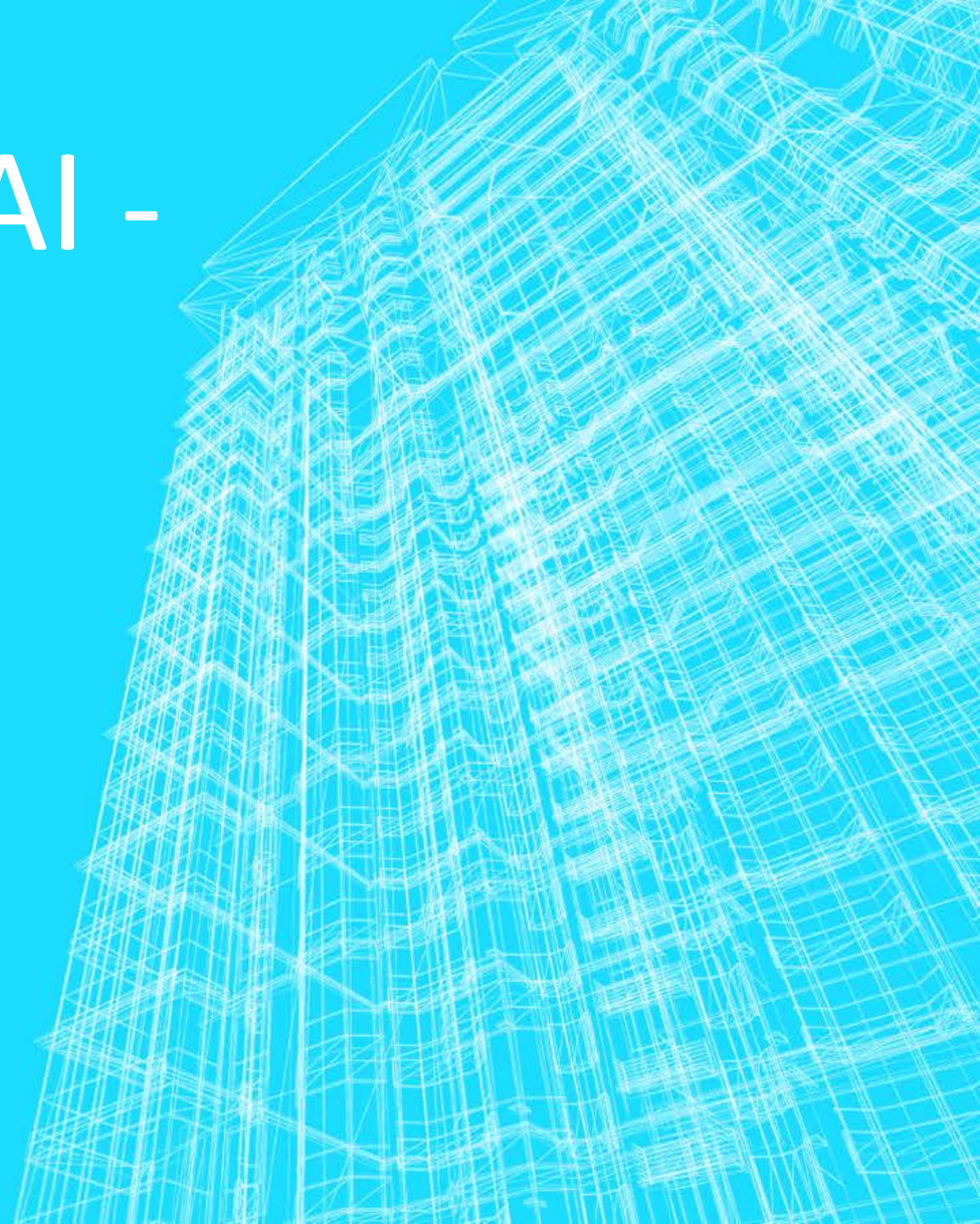


Medical Imaging AI - Data Standards

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We expect increasing numbers of AI algorithms in medical imaging.
We collectively face challenges related to being **safe** and **effective**.

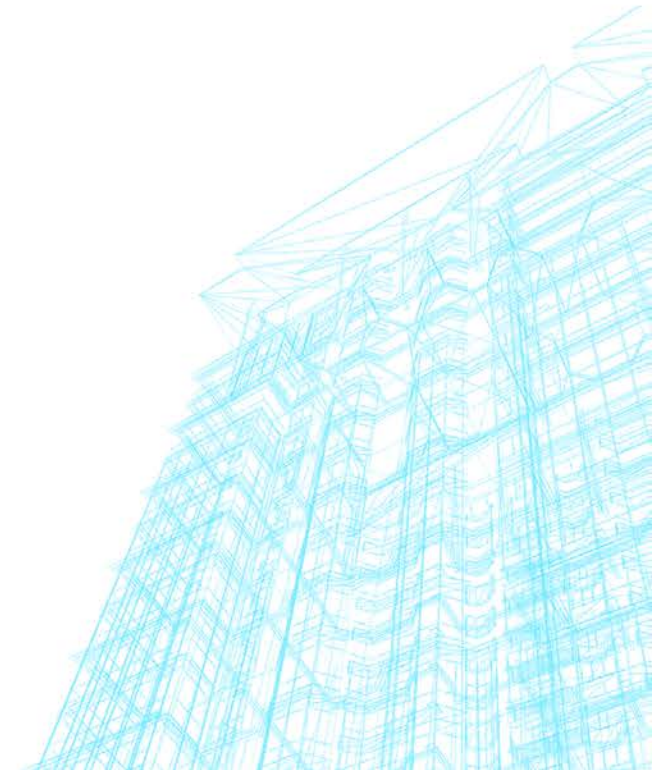
How do we:

- Ensure many data sources integrate with many data consumers
(**interoperability**)
- Ensure the source/provenance of AI results is accurately recorded/tracked
(**traceability**)
- Ensure any vetting of AI results by humans is recorded/communicated
(**verification**)
- Database AI results and drive CDS and automated workflows
(**machine readability**)

Open international data standards are a sensible, effective approach.

Some are established:

- **DICOM Images**
 - *the infrastructure radiology is built on*
- **DICOM SR**
 - *already supported in many imaging products and servers*
- **DICOMweb services**
 - *supported in significant number of products*
 - *WADO-RS – retrieve DICOM data using HTTP*
 - *STOW-RS – store DICOM data using HTTP*
- **AIM - Annotation and Image Markup**
 - *transcoding defined in DICOM Part 21*
- **Codesets – SNOMED, LOINC, RSNA RadLex, ACR *-RADS**
 - *Already leveraged in DICOM, HL7, CDA, FHIR*



Open international data standards are a sensible, effective approach.

Others are newly published:

- **FHIR ImagingStudy**
 - *indexes RESTful DICOMweb image resources*
- **Simplified JSON encoding of DICOM SR**
 - *published for Trial Implementation*
- **IHE AI Results (Profile)**
 - *implementation guide for standardized storage and presentation*
 - *Public comment during March 2020*
- **IHE AI Workflow for Imaging (Profile)**
 - *implementation guide for managing execution and coordinating inputs/outputs*
 - *Public comment during March 2020*
- **Radiology Common Data Elements (CDE) – (ACR & RSNA)**
 - *Codes for AI Results and AI Analysis Procedures*

