

PICTURES

*Presentation to Scottish Radiology
Transformation Programme*

Scoping Workshop – 7th December 2020

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PICTURES

Interdisciplinary Collaboration for efficient and effective Use of clinical images in big health care REsearch.

5-year, £3.8M programme of work funded by the Medical Research Council (MRC) with additional support from the Engineering and Physical Sciences Research Council (EPSRC) as part of Health Data Research UK (HDR UK).

MRC Grant period runs 1st April 2019 to 31st March 2024 with a mid-term review point at the end of 2021.

The programme officially kicked-off in August 2019.

Objectives

Aim

Increase the capabilities of Safe Havens to support emerging technologies such as artificial intelligence (AI) and new data types such as images, MRIs, CTs, Xrays etc in health data research.

Motivation

Clinical images, especially when linked to other routinely collected health data, are extremely useful for many types of research: examining early/preclinical diagnosis, disease progression, genotype-phenotype associations, development of risk profiles, computer vision methods for biomarker extraction, machine learning approaches, and discovery and classification of disease types. The emerging field of Radiomics has the potential to bridge the gap between medical imaging and personalised medicine.

Partners



THE UNIVERSITY
of EDINBURGH



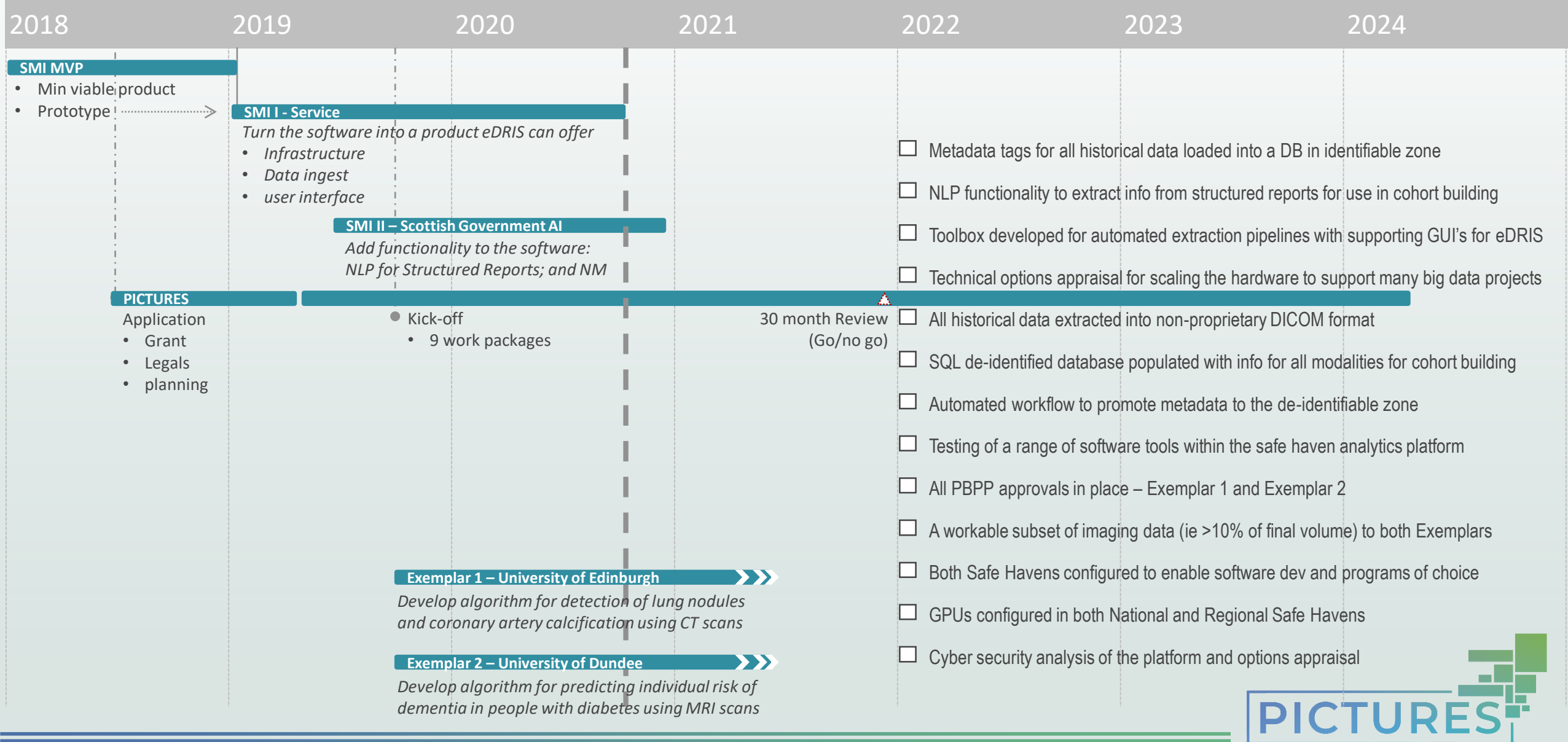
University
of Dundee



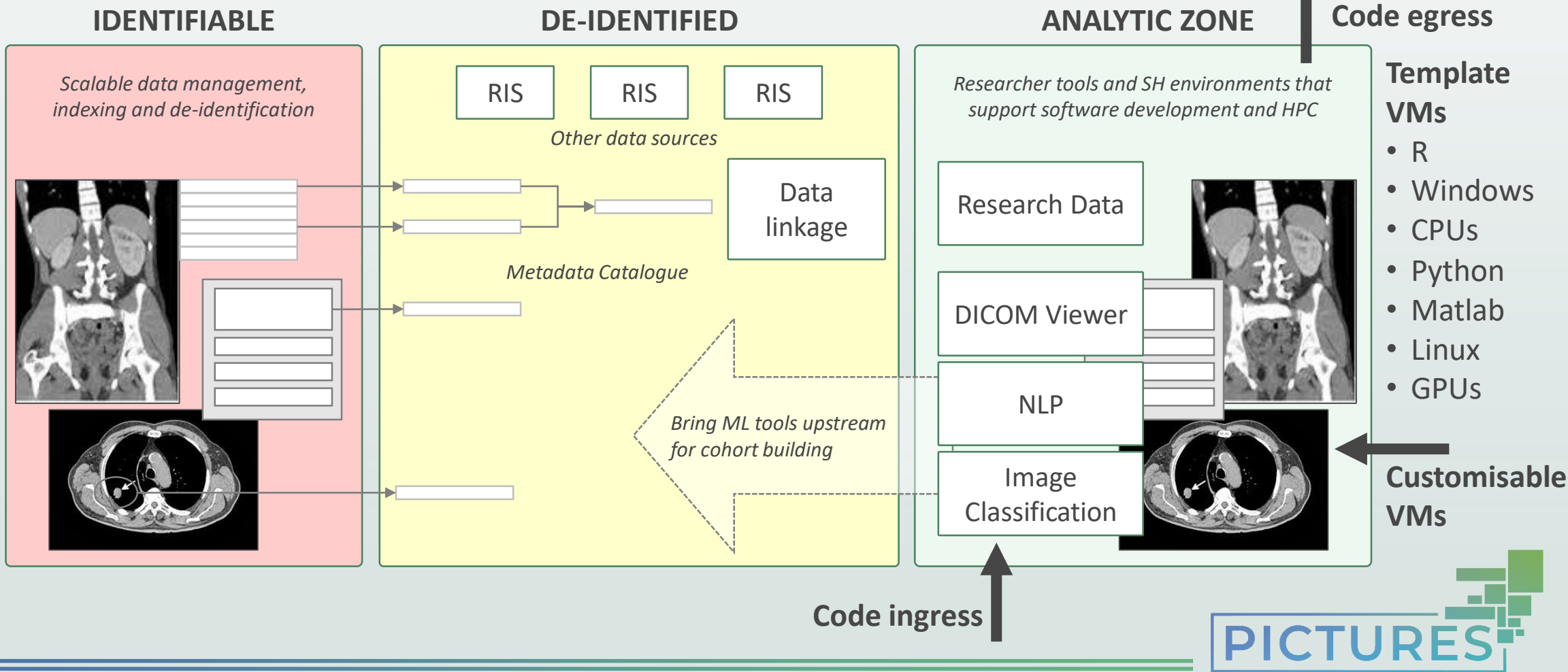
Abertay
University



Context



PICTURES enhancements to SMI (Scottish Medical Imaging)



Data Science and Engineering Research Questions

How to build research relevant Cohorts: Messy, unstructured, identifiable data!

Natural Language Processing

How to handle Big Data: scaling

Machine Learning and classification methods

Hardware and Software optimisation methods: Next Generation Safe Haven

How can we protect patient data?

Cybersecurity research

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