



**National Federated
Compute Services**
NetworkPlus

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Federated AI Application Container Platform/Registry: a Feasibility Study

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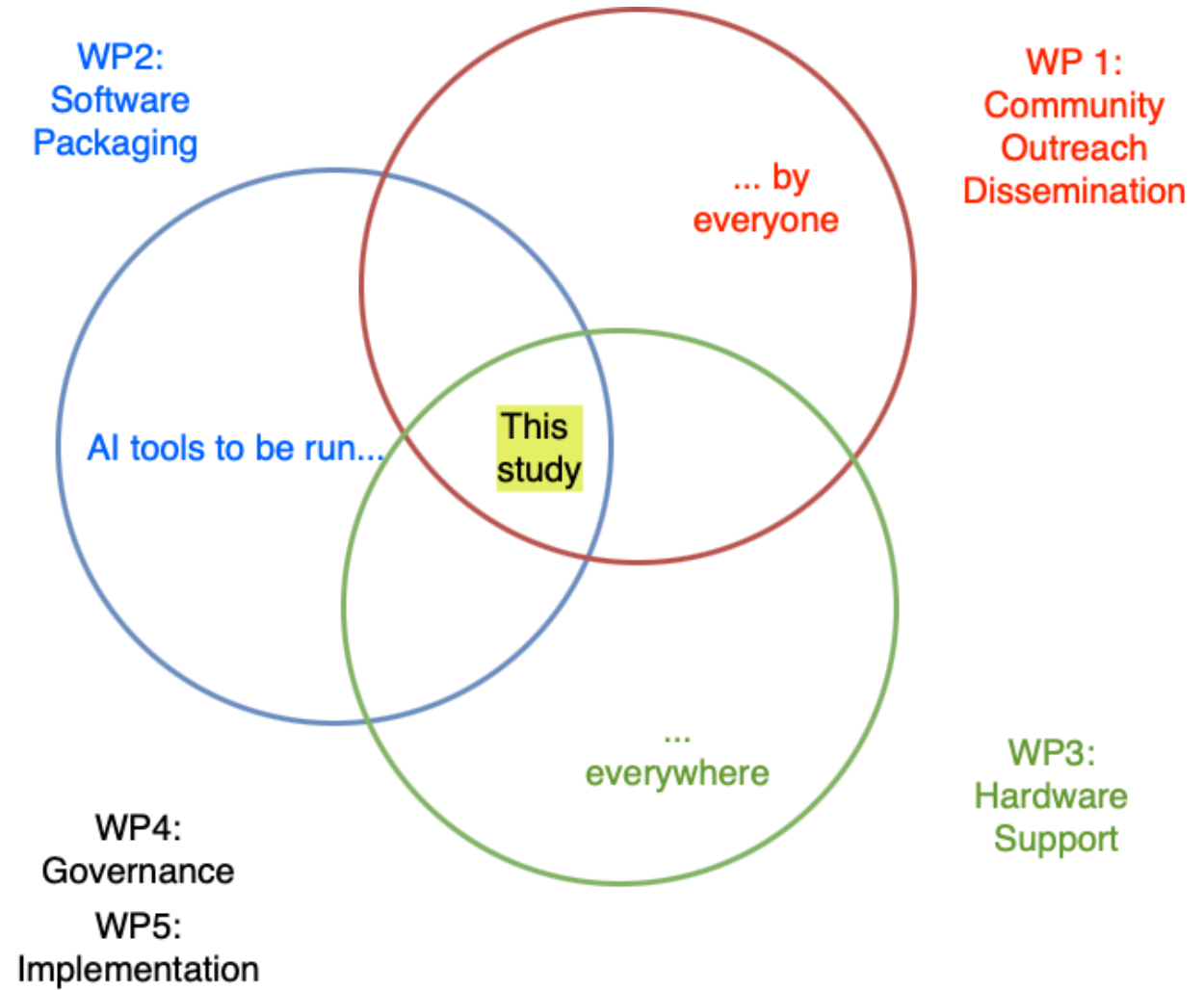
Motivations

- AI applications are complex to install and setup.
- Added complexity of specific hardware distribution (GPU/CPU) in HPC centres for processing -> **management nightmare**.
- **Our goal:** to provide **a curated, federated platform for established AI applications with built-in hardware detection and support** for known data centres hardware distributions (DAWN, Isambard-AI), open-source to allow for future extensions (including research laptops).



Introduction

- Feasibility study: studying all 3 domains (User/ Tools/ Data Centre support) and maximising the overlap area.
- Main deliverable: report on findings, possibly a prototype (stretch goal)
- Although focusing on HPC running of AI apps, can look at AI apps running on laptops too.





Work Packages

- **WP1: Community/Technology Pillar.** To assess the requirements of the UK AI research community through workshops and surveys.
- **WP2: Technology Pillar.** To survey and evaluate the suitability of existing software packaging tools and platforms
- **WP3: Technology Pillar.** To evaluate the key technical challenges in operating and managing a federated, hardware-optimised AI container service in Data Centres.
- **WP4: Governance Pillar.** To investigate potential architectural and governance models for such a service
- **WP5: Synthesis Pillar.** To produce a comprehensive feasibility report on the various findings of the previous WPs to directly inform the NFCS roadmaps.
- **WP6 (WP5 stretch goal):** implement a limited prototype if time/resources and findings allow it.



Road map

Focused over 4 workshops:

- 1st workshop, introduction to the community, survey (WP1): satellite event on Day 2 of [HPC-SIG meeting in Hartree, 23/10/2025](#).
- 2nd workshop, interim report on user requirements (WP1): UCL (Q4 2025-Q1 2026)
- 3rd workshop, report on Operation challenges (WP3) and Governance (WP4): Bristol, Isambard Day (if possible)
- 4th workshop, wrap-up: Cambridge.



Project team

Project Leads

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