



HEDx

**MortarCAPS Higher
Learning Data Standard**

UNLOCKING AUSTRALIA'S CAPABILITY ECONOMY

A National Infrastructure for
Human Capability, Individual
Agency, and AI-Ready Skills
Mobility

SUBMITTED TO:

Australian Tertiary Education Commission (ATEC)
Productivity Commission
Jobs & Skills Australia

SUBMITTED BY:

This paper is submitted on behalf of a cross-jurisdictional consortium of over 100 tertiary education institutions across Australia, New Zealand, and Canada, and constitutes a formal submission to the Productivity Commission, Tertiary Education Commission, and Jobs and Skills Commission, prepared with industry and technology partners and the 500+ member MortarCAPS Data Standard (MCDS) community.

JANUARY 2026



FOREWORD

The world stands at a critical moment. Artificial intelligence is rapidly transforming industries, reshaping professions, and redefining the capabilities that underpin national productivity. To ensure prosperity, equity, and workforce resilience, Australia must build a system that recognises all forms of learning, values human capability, and empowers individuals with control over their own data.

The MortarCAPS Higher Learning Data Standard (MCDS), the Human Capability Record (HCR), the Capability Cloud, and MortarCAPS' partnership with Capability.Co together form the foundation of this transformation. They enable a unified, interoperable, capability-driven ecosystem that can deliver a more equitable, agile, and future-ready Australia.

This white paper sets out a sector-led, government-enabled roadmap for national implementation.



THE CASE FOR NATIONAL CAPABILITY INFRASTRUCTURE

Australia's tertiary system faces unprecedented structural pressures:



RISING DELIVERY AND REGULATORY COMPLIANCE COSTS



DECLINING INTERNATIONAL STUDENT REVENUE



FRAGMENTED INSTITUTIONAL SYSTEMS



ADMINISTRATIVE DUPLICATION ACROSS COMPLIANCE, REPORTING, AND ACCREDITATION



LABOUR MARKET TRANSITIONS FAVOURING SKILLS-FIRST HIRING



RAPID EMERGENCE OF AI-ENABLED WORK



LIMITED INDIVIDUAL CONTROL OVER EDUCATIONAL AND CAPABILITY DATA

These pressures highlight an opportunity to better recognise, validate, or mobilise the capabilities Australians develop across learning, work, and life.

AI makes human capability more important, not less.

Global capability research consistently highlights the increasing importance of durable human capabilities—communication, collaboration, creativity, problem solving, adaptability, leadership, and ethical reasoning. As automation expands, these capabilities become Australia's competitive advantage.



Across Australian universities, “graduate qualities” (often called graduate attributes) describe a shared set of capabilities that all students are expected to develop, regardless of discipline. They sit alongside program-level learning outcomes and are shaped by national frameworks such as the Australian Qualifications Framework (AQF) and TEQSA’s standards for course design and quality assurance. While each institution uses its own language, it is hard to miss the convergence towards:

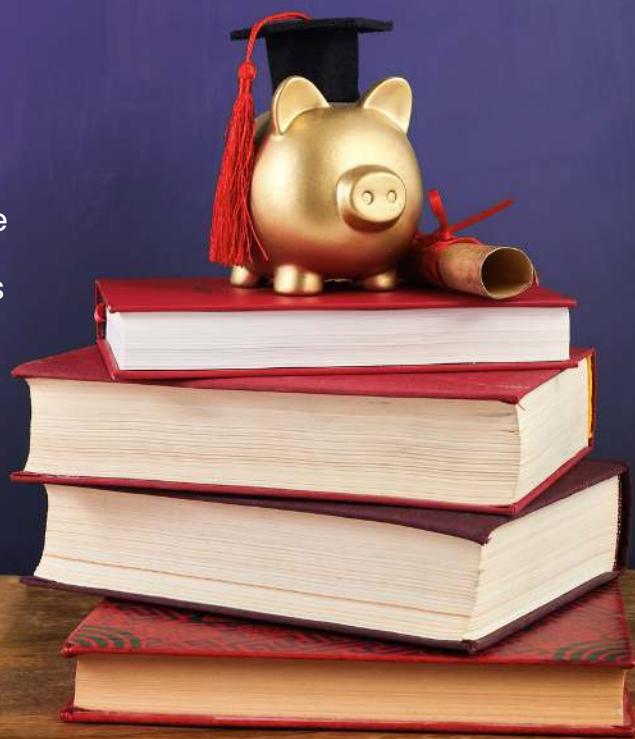
- Deep disciplinary expertise
- Critical and creative thinking
- Problem solving
- Effective oral and written communication
- Digital and information literacy
- Teamwork and collaboration
- Intercultural and ethical competence
- Commitment to lifelong learning and adaptability

Many universities add an explicit focus on leadership, global citizenship, and engagement with Aboriginal and Torres Strait Islander knowledge and perspectives, positioning graduates as socially responsible professionals and community members who can exercise “influence” and contribute to sustainable, just futures. In practice, these qualities are embedded into curricula and assessment, but Australia lacks a unified mechanism to share capability information at scale, so rich evidence of these qualities remains fragmented across institutions, systems, and documents, and is not easily visible or portable for learners, employers, or policymakers.

This is the gap MortarCAPS is designed to fill.

“The MortarCAPS ecosystem represents a transformative step for Australia’s tertiary sector. By harmonising data standards and enabling secure, consent-driven capability exchange, we reduce duplication, streamline compliance, and unlock real-time insights for institutions and government. This is not just an efficiency gain, it’s a foundation for a more agile, equitable, and future-ready education system that empowers learners and strengthens our national workforce.”

GREG SAWYER
CEO
CAUDIT



THE MORTARCAPS HIGHER LEARNING DATA STANDARD

Australia's Unifying Data Spine

The MortarCAPS Higher Learning Data Standard (MCDS) is Australia's first unified tertiary data standard. Built collectively by institutions across the tertiary landscape, the MCDS provides:

- A **harmonised schema** across the student lifecycle
- **Integration** of curriculum, assessment, placements, and recognition of prior learning
- A **consistent structure** for learning outcomes and program design
- **Alignment** with institutional, professional, and government data needs
- A foundation for AI-ready data **interoperability** across vendors and systems

The MCDS enables:

- Seamless credit and capability **mobility**
- **Consistent data** across VET and Higher Education
- Dramatically **reduced duplication and compliance burden**
- **Modern** vendor ecosystems
- **Real-time insights** for policy, performance, and planning

It is the data backbone that makes a capability-driven future possible.

"The capability economy requires data infrastructure that can connect Australia's fragmented tertiary systems at scale. Workato's MCDS Integration Accelerator enables universities to achieve compliance, unlock AI-ready data, and participate in the Capability Cloud ecosystem. We're proud to support MortarCAPS and the sector in building the integration backbone that makes this vision possible."

LUKE MODLMAYR
SALES EDUCATION LEAD
WORKATO



THE HUMAN CAPABILITY RECORD

Individual Agency in a Skills-First Economy

The Human Capability Record (HCR) is a portable, learner-controlled digital capability record aligned with Consumer Data Right principles and the Digital ID ecosystem. The HCR captures:



ACADEMIC CREDENTIALS AND FORMAL QUALIFICATIONS



MICRO-CREDENTIALS, SHORT COURSES, AND ASSESSED COMPETENCIES



RECOGNISED PRIOR LEARNING AND INFORMAL LEARNING



INDUSTRY BADGES, INTERNSHIPS, PLACEMENTS, AND PROFESSIONAL EXPERIENCES



MAPPED CAPABILITIES AND SKILLS USING VALIDATED NATIONAL TAXONOMIES AND THE UNIFIED HCS25 ONTOLOGY



BEHAVIOURAL INDICATORS AND PROFICIENCY LEVELS



WELLBEING AND SUPPORT INFORMATION (WITH EXPLICIT, WITHDRAWABLE CONSENT)



MENTORING, CAREER DEVELOPMENT, AND ADVISORY INTERACTIONS



PROFESSIONAL ACCREDITATION STATUS

Individual agency replaces legacy “institution-owned data”

The HCR ensures Australians are able to:



CHOOSE WHAT CAPABILITY INFORMATION TO SHARE



DECIDE WHO CAN ACCESS IT



SET TIME LIMITS FOR SHARING



CONTROL THE PURPOSE OF DATA USE

It is **not a transcript** — it is a lifelong capability portfolio that evolves with the individual.



“Lifelong learners need reliable measures of their ongoing educational wellbeing. This work provides reliable measures of that wellbeing and makes visible the consciousness we need of our skills and competence and their fitness for future purpose.”

MARTIN BETTS
CEO
HEDX

MORTARCAPS × CAPABILITY.CO



Capability.Co

A Unified Capability Ontology for Australia

Through MortarCAPS' partnership with Capability.Co, the HCR is powered by HCS25: Human Capability Standards 2025, a unified capability ontology validated across global frameworks. HCS25 provides:



FOUR CAPABILITY DOMAINS: HEAD, HEART, HANDS, LEAD



SEVEN PROFICIENCY LEVELS

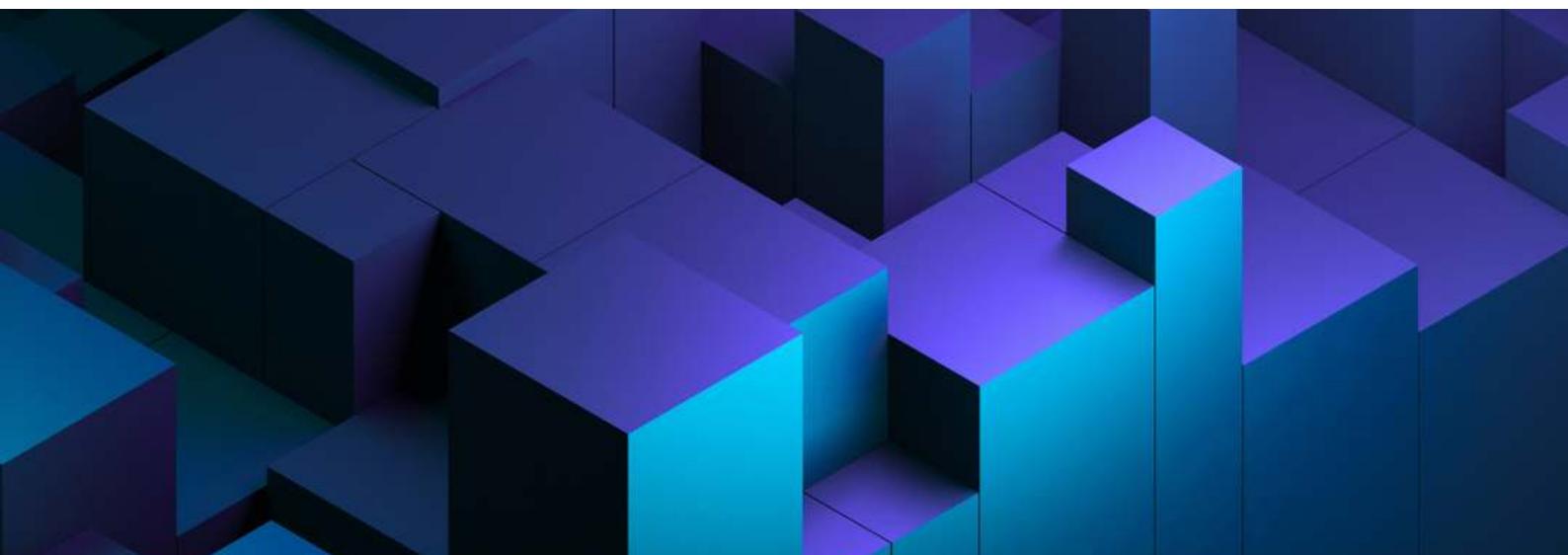


BEHAVIOURAL INDICATORS FOR ASSESSMENT AND VERIFICATION



AN INTEGRATED MODEL USABLE ACROSS EDUCATION, ACCREDITATION, AND EMPLOYMENT

By combining the education and employer variants of HCS25 into one unified ontology, Australia gains a single, coherent capability language for learning, work, and lifelong development.



THE CAPABILITY CLOUD

Australia's Open-Banking-Style Infrastructure for Capability Data

The Capability Cloud is the national infrastructure that will enable secure, real-time capability exchange across the tertiary sector, industry, and government. It is an open-banking-style infrastructure — but for capability data. Using public key infrastructure (PKI), the Capability Cloud ensures that all data sharing is:

**ENCRYPTED****AUDITABLE****PRIVACY-PROTECTING****CONSENT-DRIVEN****INTEROPERABLE ACROSS SYSTEMS AND ORGANISATIONS**

National Mandate Through My eQuals / ANZ Credit Management Initiative

MortarCAPS has been awarded the RFP to deliver the Capability Cloud as part of the ANZ Credit Management Initiative under My eQuals and Higher Education Services (HES), with work scheduled to commence in early 2026. This establishes the Capability Cloud as the official national infrastructure for:

**CREDIT MOBILITY****RECOGNITION OF PRIOR LEARNING****VERIFIED ACADEMIC RECORDS****FUTURE CAPABILITY EXCHANGE ACROSS AUSTRALIA AND NEW ZEALAND**

WHAT THE CAPABILITY CLOUD WILL ENABLE



REAL-TIME CAPABILITY AND CREDENTIAL SHARING



INDIVIDUAL-CONTROLLED PERMISSIONS



CONNECT-ONCE PARTICIPATION FOR INSTITUTIONS AND EMPLOYERS



SEAMLESS CREDIT TRANSFER AND RECOGNITION OF PRIOR LEARNING



SUPPORT FOR THE NATIONAL SKILLS PASSPORT



REDUCED COMPLIANCE AND REPORTING BURDEN



INSIGHT INTO SKILLS AND CAPABILITY TRENDS



PRIVACY-PRESERVING, DATA-EFFICIENT DECISION-MAKING

A Foundation for the Capability Economy

The Capability Cloud connects:



INDIVIDUALS



TERTIARY PROVIDERS



INDUSTRY



PROFESSIONAL BODIES



GOVERNMENT

It forms the circulatory system of Australia's capability-driven future.

BRIDGING EDUCATION AND INDUSTRY

A Rising Tide Lifts All Boats

This ecosystem — MCDS, HCR, HCS25, and the Capability Cloud — enables a unified bridge between education and industry.

FOR LEARNERS



INDIVIDUAL
AGENCY



RECOGNITION BEYOND
CREDENTIALS



CLEARER PATHWAYS
INTO EMPLOYMENT



PORTABLE CAPABILITY
EVIDENCE

FOR EDUCATION PROVIDERS



REDUCED ADMINISTRATIVE
WORKLOAD



STREAMLINED
ACCREDITATION



CONSISTENT CAPABILITY
FRAMEWORKS



AI-ENABLED
INSIGHTS

FOR INDUSTRY



TRUSTED CAPABILITY
SIGNALS



IMPROVED HIRING
ACCURACY



BETTER WORKFORCE
PLANNING

FOR GOVERNMENT



REAL-TIME
CAPABILITY INSIGHTS



MORE EFFECTIVE
POLICY SETTINGS



IMPROVED NATIONAL
WORKFORCE PREPAREDNESS

"I am a lecturer in Work and Organisational Studies. In my classes, I challenge students to develop success skills (aka 'soft skills') — and as a caring coordinator, I do my absolute best to also give them evidence of those skills via certificates of achievement, LinkedIn recommendations and personal references..."

That already gives students a competitive edge with employers; a unified system like the Human Capability Record could let them spotlight these success skills even more powerfully and credibly at scale."



DR MARIA ISHKOVA, SFHEA
LECTURER
UNIVERSITY OF SYDNEY BUSINESS SCHOOL

ALIGNMENT WITH NATIONAL REFORMS

This national capability infrastructure directly supports:



UNIVERSITIES ACCORD PILLARS



NATIONAL SKILLS PASSPORT IMPLEMENTATION



NATIONAL SKILLS TAXONOMY DEVELOPMENT



“SKILLS FIRST” INITIATIVES ACROSS BOTH EDUCATION AND INDUSTRY



DIGITAL ID AND CDR ALIGNMENT



PROFESSIONAL ACCREDITATION MODERNISATION



WORKFORCE DEVELOPMENT STRATEGIES

RECOMMENDATIONS TO GOVERNMENT



ENDORSE THE HCR AS THE BASIS OF THE NATIONAL SKILLS PASSPORT



FUND PHASE 0 OF THE CAPABILITY CLOUD FOR 2026 IMPLEMENTATION



SUPPORT NATIONAL ADOPTION OF MCDS ACROSS THE TERTIARY SECTOR



EMBED HCS25 INTO NATIONAL SKILLS AND CAPABILITY FRAMEWORKS



FORMALISE A CO-STEWARDED GOVERNANCE MODEL



UPHOLD CDR-ALIGNED CONSENT PRINCIPLES IN ALL SKILLS DATA POLICIES

"This White Paper signals a significant step toward a more connected, secure, and interoperable higher education infrastructure for Australia. It extends the existing trusted access framework provided by the Federation we operate today.

Support for these recommendations will strengthen sector-wide interoperability across Australia's higher education and research organisations and enable much needed linkage with government and industry... Current cyber threats to Australian data, particularly in the higher education sector, mean that a system-wide standardised approach to trusted access through identity assurance is critical. Cybersecurity starts with trusted identity."

JOHN SCULLEN
HEAD OF TRUST AND IDENTITY FUTURES
AUSTRALIAN ACCESS FEDERATION



AUSTRALIA'S OPPORTUNITY TO LEAD

Australia can become the first nation in the world to:



COMBINE A UNIFIED TERTIARY DATA STANDARD



DEPLOY A VALIDATED HUMAN CAPABILITY ONTOLOGY AT NATIONAL SCALE



EMPOWER INDIVIDUALS WITH FULL AGENCY OVER THEIR OWN DATA



OPERATE A PKI-BASED CAPABILITY EXCHANGE



SUPPORT REAL-TIME CAPABILITY MOBILITY ACROSS BORDERS AND INDUSTRIES



RECOGNISE LEARNING WHEREVER IT OCCURS, WHETHER IT IS IN EDUCATION OR INDUSTRY, WITHIN AUSTRALIA OR INTERNATIONALLY

The Capability Cloud will soon enter active build.

The HCR is ready for national adoption.

The sector is aligned.

The opportunity is now.

AUSTRALIA'S CAPABILITY FUTURE IS READY TO BE ACTIVATED.

