

# Example of an Innovation Measurement Framework

Cutting across innovation system components are two important contextual factors, enablers in the innovation system and the intended impact measurement. For this example, enablers and economic impact measurement are described below. These contextual elements should be identified as appropriate for the framework.

**Enablers** of innovation are factors that are fundamental influences that provide and facilitate an environment conducive for innovation. These can include, leadership, governance, institutions, markets, international investment flows and trade.

**Impact:** Economic impacts include economy-wide outcomes that innovation contribute to, such as multifactor productivity growth, Gross State Product growth, Income distribution, Relative wage growth. For social or environment impact measurement, a social return on investment or environmental impact assessment may be appropriate.

Levels	Innovation System Components				
	Creation, development or application of new ideas and knowledge	Human capital and entrepreneurship	Knowledge distribution	Technology diffusion	Operating environment
<p><b>System level</b> (examples of state level metrics)</p>	<ul style="list-style-type: none"> <li>Share of Higher Education expenditure on Research and Development (HERD) financed from abroad</li> <li>Share of HERD financed by business</li> <li>Government expenditure on R&amp;D (GovERD) as a share of GSP</li> <li>High education expenditure on R&amp;D (HERD) as a share of GSP</li> <li>Business spend on IP as a share of GSP</li> <li>Share of businesses registered for R&amp;D Tax concession</li> <li>Business expenditure on R&amp;D (BERD) as a proportion of GSP</li> <li>Gross expenditure on R&amp;D (GERD) as a share of GSP by industry</li> <li>Share of QLD scholarly outputs with academic-corporate collaboration</li> <li>Proportion of businesses that introduce a new to world goods or services (BCS)</li> <li>Proportion of businesses that introduce a new to Australia goods or services (BCS)</li> <li>Proportion of businesses that have conducted commercialisation activities (BCS)</li> </ul>	<ul style="list-style-type: none"> <li>Proportion of workforce in R&amp;D (by industry)</li> <li>Proportion of staff in research and teaching functions</li> <li>Proportion of enrolments in STEM courses (VET and higher education)</li> <li>Proportion of workforce holding STEM fields qualifications</li> <li>ICT workers as a share of total workforce</li> <li>Proportion of innovation-active businesses</li> </ul>	<ul style="list-style-type: none"> <li>Share of scholarly output in the top 1% most cited publications</li> <li>Share of QLD scholarly outputs with international co-authorship</li> <li>Number of research publications per 1,000 population</li> <li>Share of scholarly output in the top 10% most cited publications</li> <li>Number of trademarks per 1,000 population</li> <li>Number of patents sealed per 1,000 population</li> <li>Proportion of active businesses registering patents/trademarks</li> <li>Share of Queensland innovation-active businesses collaborating on innovation</li> </ul>	<ul style="list-style-type: none"> <li>Proportion of businesses that have a social media presence/adopt cloud computing (CCIQ)</li> <li>Business technology absorption (% of adoption of digital technology) (CCIQ)</li> <li>Proportion of business that have introduced a significant improvement (BCS)</li> <li>Proportion of businesses that introduce a new to business goods or services (BCS)</li> </ul>	<p><b>Infrastructure</b></p> <ul style="list-style-type: none"> <li>Co-investment as a percentage of total investment in digital infrastructure</li> <li>Research institutions per capita</li> <li>Innovation and scientific hubs and precincts per capita</li> </ul> <p><b>Business environment</b></p> <ul style="list-style-type: none"> <li>Business entry and exit rate</li> <li>Business survival rate</li> <li>Venture capital invested in Qld firms (as a % of GSP)</li> <li>Number of ABNs per 1,000 residents</li> <li>Share of Queensland Government procurement to SMEs</li> </ul> <p><b>Financial environment</b></p> <ul style="list-style-type: none"> <li>Value of venture capital and later stage private equity investment in investee companies</li> <li>Value of new and follow-up investment in investee companies</li> </ul>
<p><b>Department level</b> (examples only)</p> <p>Metrics should be guided by the department's strategy to suit the outcomes or objectives of the strategy.</p> <p>Metrics listed here are examples only as it is not appropriate to have generic metrics.</p>	<ul style="list-style-type: none"> <li>Proportion of funding recipients that introduce a new to world goods or services</li> <li>Proportion of funding recipients that introduce a new to Australia goods or services</li> <li>Proportion of funding recipients that have conducted commercialisation activities</li> <li>Gross expenditure on R&amp;D by Queensland Government agencies</li> </ul>	<ul style="list-style-type: none"> <li>Proportion of funding recipients who are startups</li> <li>Proportion of funding supports diversity (female, First Nations and regional recipients)</li> <li>Proportion of funding recipients who improve business capability (management, marketing, design, production, and strategy)</li> <li>Proportion of businesses that experience high growth</li> </ul>	<ul style="list-style-type: none"> <li>Proportion of funding recipients who applied for IP</li> <li>Proportion of business recipients who collaborate for the purpose of innovation</li> <li>Proportion of business recipients who collaborate with a university or research institution</li> <li>Proportion of business recipients who collaborate with an industry partner</li> <li>Proportion of business recipients who collaborate with a government entity</li> </ul>	<ul style="list-style-type: none"> <li>Proportion of funding recipients that adopted or introduced any new or significantly improved process using technology</li> <li>Proportion of funding recipients that adopted or introduced technology to improve goods or services</li> <li>Proportion of funding recipients who collaborate with a partner to use technology to significantly improve goods or services</li> </ul>	
<p><b>Program level</b> (examples only)</p> <p>Metrics should be guided by the department's strategy at this level.</p> <p>Metrics should be developed to suit the program objectives and in line with the outcomes or objectives in the strategy.</p> <p>Metrics listed here are examples only. Metrics relevant to individual programs should be identified during the design and planning stage through the theory of change and program logic process.</p>	<ul style="list-style-type: none"> <li>Proportion of program recipients that introduce a new to world goods or services</li> <li>Proportion of program recipients that introduce a new to Australia goods or services</li> <li>Proportion of program recipients that have conducted commercialisation activities</li> <li>Proportion of program recipients that have leveraged funds to support the creation, development or application of innovative solutions</li> </ul>	<ul style="list-style-type: none"> <li>Proportion of diversity (female, First Nations, regionally based) startup recipients in the program</li> <li>Proportion of business recipients that experience growth in revenue, employees, profit or access to new market</li> <li>Proportion of business recipients who generate new employment/ jobs</li> </ul>	<ul style="list-style-type: none"> <li>Proportion of program recipients who applied for IP</li> <li>Proportion of program recipients who collaborate for the purpose of co-design, cocreate or develop a joint good, service or solution</li> <li>Proportion of funding recipients who engages (exchange knowledge assets) with a university or research institution</li> <li>Proportion of funding recipients who engages (exchange knowledge assets) with an industry partner</li> <li>Proportion of funding recipients who (exchange knowledge assets) with a government entity</li> </ul>	<ul style="list-style-type: none"> <li>Proportion of program recipients that adopted or introduced any new or significantly improved process using technology</li> <li>Proportion of program recipients that adopted or introduced technology to improve goods or services or implement a solution</li> <li>Proportion of program recipients who collaborate with a partner to use technology to significantly improve goods or services or implement a solution</li> </ul>	