

## COOPERATIVE RESEARCH CENTRE FOR SPATIAL INFORMATION

### STRATEGIC PLAN

Approved by the Governing Board: 22 February 2013

#### VISION: SPATIALLY ENABLING AUSTRALIA AND NEW ZEALAND

The CRCSI will be widely recognised for its high impact, collaborative research that leads to accelerated industry growth, improved social well-being and a more sustainable environment.

#### CONTEXT WITHIN WHICH WE OPERATE AND OUR RESOURCES

The CRCSI is an unincorporated joint venture set up under the Cooperative Research Centre Program of the Australian Commonwealth Government. The purpose is to build critical mass in research ventures between end-users and researchers tackling clearly articulated, major challenges for the end-users. The term of the CRCSI runs from January 2010 to June 2018. The 90 or so partners of the CRCSI comprising twelve 'Essential Participants,' sixty small to medium sized enterprises and 20 'Support' Participants and project partners from the government, private and research sectors have agreed to provide \$160 million (cash and inkind). The spatial information industry is one of the fastest growing in the world.

#### OUR VALUES

We will be strongly **collaborative** in our relationships, strive for **excellence** in our research, and always aim to be **transformational** in our impact.

#### WHAT SUCCESS WILL LOOK LIKE

By 2018 the CRCSI will be recognised world-wide for the high impact of our research, especially in the enabling role we played in creating a single, multi-GNSS network in Australia, and adding value to the development of the Australia-New Zealand Spatial Marketplace. A thriving spatial industry will acknowledge the central role of the CRCSI. We will be considered an essential partner for complex SI research collaborations both locally and internationally. Spatial education will be improved as a result of the CRCSI's activities, significantly enhanced by 50 or more new CRCSI PhDs. The transition of the CRCSI from the CRC Program to a permanent and sustainable entity will be implemented on or before June 2018.

#### OUR STRATEGIC OBJECTIVES

##### 1. NATIONAL PRECISE POSITIONING (RESEARCH PROGRAM 1)

**Objective 1:** To conduct research that solves the signal processing and economic impediments to the creation of a sparse, continental-scale, precise positioning multi-GNSS network operating at 2 cm (x and y) accuracies.

##### 2. AUTOMATED GENERATION OF SPATIAL INFORMATION PRODUCTS (RESEARCH PROGRAM 2)

**Objective 2:** To conduct research into automated cartographic feature extraction from integrated aerial, satellite and terrestrial imaging and laser scanning systems to enhance sensor-to-user data processing in selected application areas including automated digital topographic map updating, landform and urban change detection and modelling, and feature detection using mobile mapping systems for infrastructure asset management to enable our partners to become Australia's leading centres for automated processing.

##### 3. INFRASTRUCTURE FOR AN AUSTRALIA NEW ZEALAND SPATIAL MARKETPLACE (RESEARCH PROGRAM 3)

**Objective 3:** To identify and solve the research issues that will enable the operators of the Australia and New Zealand Spatial Marketplace to construct the infrastructure, operate the marketplace and to enable our CRCSI partners to create value-added applications with new technologies using semantic web technologies.

#### 4. APPLICATIONS (PROGRAM 4)

**Objective 4:** To include but not be limited to the realisation of high impact use of the CRCSI's research in the following areas: **Agriculture and Natural Resources affected by Climate Change (4.1)** through the creation of a biomass and carbon monitoring system for high resolution and high frequency application on farms and through improved environmental monitoring; **Defence (4.2)** by adapting the emerging capabilities of CRCSI's research portfolio; **Energy Utilities (4.3)** to enable remote monitoring of the condition of built assets in near real time; **Health (4.4)** by helping agencies to spatially enable their clinical databases; and **Urban development (4.5)** to build new tools, paradigms and theories including agglomeration economy and greyfield regeneration to support sustainable urban development.

#### 5. EDUCATION (PROGRAM 5)

**Objective 5:** By 2012 the CRCSI will have a plan to improve the skilled capability of the Australian and New Zealand workforce by working with the education providers. As a priority by 2018 the CRCSI will have graduated at least 50 PhDs with our university partners.

#### 6. INDUSTRY DEVELOPMENT AND SUSTAINABILITY (PROGRAM 6)

**Objective 6: Industry development;** to establish a program of assistance for our partners, in particular 43pl, that helps them find ways to develop and exploit CRCSI IP; and to establish a program for 43pl members in particular and the industry generally that helps them improve the management of their internal innovation and R&D programs. These programs, in conjunction with the activities of the CRCSI, seek to encourage investment in R&D by spatial businesses with the overall objective of growing the Australian and New Zealand spatial sector.

**Objective 7: Commissioned research;** is expected to generate an additional \$10M of activity in the CRCSI (from January 2010) tackling complex research needs involving multiple partners from both the public and the private sectors. Initially most of this research will be taken on around the existing core expertise. In time this will grow into new areas of expertise.

#### COLLABORATION

Strategic collaboration will be sought where it enhances the effectiveness of the CRCSI. In addition to our Australia and New Zealand partners, the CRCSI will be an active partner in the Global Spatial Network, the alliance of spatial CRCSI-like entities from around the world. The CRCSI will continue to grow its relationship with CEODE and Wuhan University (China), TECTERRA (Canada) and with other selected organisations.

#### RISKS

The strategic risks are: that other research developments domestically and internationally render the CRCSI's research programs obsolete; we fail to retain and nurture a cadre of eminent researchers; we fail to attract an adequate cohort of postgraduate candidates; we lose our reputation as the leading spatial research institution in Australia and New Zealand; we fail to generate sufficient independent funding and support to transition to a self-sustaining entity; we fail to continue to meet the expectations of our partners.

#### PERFORMANCE INDICATORS

1. A solution for the impediments of multi-GNSS signal processing and economic arguments for a continent-wide, ubiquitous, sparse, precise positioning network.
2. Adoption by our partners of new methodologies and software tools that enhance the level of automation of feature extraction and data-to-information generation processes, that lead to productivity gains in the spatial information industry.
3. Wide recognition by our partners of the CRCSI's role in helping establish and value-add to the Australia and New Zealand Spatial Marketplace .
4. An Educational Program that is judged to be transformational by our partners.
5. Establishment of a self sustaining entity by mid 2018.