CDEM Resilience Fund project application form

This form provides the minimum of information for the application; a detailed project plan should be developed to inform this application and may be attached.

Project title	National Information Infrastructure Framework phase II
Date of application	29 September 2017
Details on application	
Applicant	StratSim Ltd
CDEM Group/s affected	National impact on all groups
Other local authorities, Groups or organisations supporting this proposal	

Project description

Information is the currency of resilience. In times of crisis and in business as usual, discovery and ready access to relevant information is vital for emergency managers to make informed decisions and deploy resources.

Following on from the opportunities for improvement in the emergency management information landscape identified in Stratsim's 2017-2018 engagement with MCDEM, phase II of this project seeks to address the next most important of the priorities established in the findings produced as part of the resilience fund project *National Information Infrastructure Framework.*

Local Civil Defence groups and emergency services must respond to situations at any time of the day or night with consistent, timely and decisive evidence based decision-making. However questions such as "how many people are affected" or "what infrastructure and lifelines are impacted" have in the past often proved difficult to answer. As with any other systematic approach, the information infrastructure needs to be established before the emergency rather than ad-hoc solutions in crisis.

For the most part, the data required by emergency managers already exists, principally in various Local and National Public Sector agencies, but there are significant barriers to the discovery, access and use of that data: *"The public sector holds large amounts of data but it is not being shared effectively and there is a lack of knowledge as to what data are available where, and how one can access them"*[1]

This project will continue the work done to establish an information infrastructure framework for the real-time discovery, access and use of the data necessary for Emergency Managers, Government Agencies, Emergency Service NGO's and the Public in planning for and responding to an emergency.

In consultation with Ministry staff the scope will be defined by the outcomes of phase I, which offers potential to be broadened to include other inputs into systems that are complimentary to the current geospatial scope, or deepened to include inputs into the other systems, such as Regional EOC information supply chains right down to individual incident management information.

View our website here: http://www.stratsim.co.nz/
or download our whitepaper here: http://www.stratsim.co.nz/freeresources/

[1] *Spatial Information in the New Zealand Economy Report, ACIL Tasman 2009*

Challenge/opportunity

The proposers, Martin Erasmuson and Stephen Ferriss were the principal architects of CERA's award-winning spatial data infrastructure (SDI)[2]. In the initial weeks and months following the Feb 2011 earthquake, such was the chaos and complexity on the ground that no one at CERA could articulate their information requirements for tomorrow; let alone in a week or two. Suffice to say that once they knew what they wanted, they'd want it almost immediately. THAT statement itself became the requirement: 'an information infrastructure that could support on-demand discovery, access and use of any 'potentially' relevant information to the earthquake recovery effort'. That was what we created at CERA.

What are the potential types of emergencies? What decisions would Emergency Managers need to make for response and recovery efforts? What information would be required to support those decisions and where would it come from? As with CERA, once you know what you need, you need it almost immediately.

That makes information the currency of resilience. The CERA experience demonstrated that for the most part, ALL of the information required already exists in an agency somewhere, as does the technology for its access. These challenges manifested as:

Discovery: I don't know if the data exists or who has it

Suitability: I know data exists but I can't tell if it's suitable or authoritative

Access: The data is suitable but is not accessible now (the Council is closed over the weekend!!)

Format: The data is not readily usable by commonly available systems

The opportunity: In acknowledging that most of the data already exists, the key element missing is the organisational arrangements and the technical infrastructure necessary to exploit that data. Organisational arrangements principally involve a Governance Team driving the direction of the on-going project, establishing policy and brokering the necessary access arrangements with data stewards. This latter item proved the most challenging but valuable element of the CERA SDI. Once the organisational elements are in place, the technology to support such an infrastructure is relatively simple and inexpensive. The entire CERA infrastructure was a cloud-based Software as a Service (SaaS) model. While relatively raw in 2011, SaaS technologies are now quite mature in their ability to support the proposed data-on-demand infrastructure.

Alignment with identified goals and objectives identified in the CDEM sector

This project will directly support the desired integrated approach to EM encapsulated in key EM documents including the 4Rs; reduction, readiness, response and recovery; and along with key principles and goals of the National CDEM Strategy.

The result will be vastly increased capability for MCDEM to leverage data from other agencies for supporting emergency planning, response and recovery. Taking a strategic national view of information requirements, rather than a disjointed patchwork of regional hotspots, will maximise the value of public data resources to the wider emergency management sector and greatly enhance resilience by:

- Promoting and enabling consistency in evidence based decision making
- Promoting and enabling the sharing of data with other agencies
- Developing and delivering learning content for professional development
- By building in integration with the Government Data Portal (https://data.govt.nz/) run by The Department of Internal Affairs, this project will not only benefit the emergency management sector, but all New Zealand business and industry

[2] View our website here: http://www.stratsim.co.nz/
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Dissemination of benefits to sector
There is a groundswell of similar data related activity happening now in New Zealand Central and Local Government. In addition to the successful CERA example, StratSim Ltd recently completed an engagement with Auckland Council focused on establishing an integrated growth forecasting and planning model requiring a federated data discovery and sharing framework across 12 agencies[3]. By taking a national information landscape view, MCDEM will be well placed to gain immediate benefits across the business, both at National, Regional and Local scales. The cornerstone of a successful project implementation will be coordination and integration with existing initiatives and incorporating existing Government policy, guidelines and capability, particularly those focused on the discovery and access of public information. These include: **Policy** • The New Zealand Declaration on Open and Transparent Government (https://www.ict.govt.nz/guidance-and-resources/open-government/declaration-open-and-transparent-government/) • Government ICT Strategy & Action Plan (https://www.ict.govt.nz/strategy-and-action-plan/strategy/) • Open Data with Creative Commons 3.0 attribution (CC-BY 3.0 NZ) (https://creativecommons.org/licenses/by/3.0/nz/) granting unrestricted reuse rights to information. **Initiatives** • Data Futures Forum involvement in the national data infrastructure space http://datafutures.co.nz • Integration with the Government Data Portal (https://data.govt.nz/) run by The Department of Internal Affairs • Open data initiatives driven by Statistics New Zealand

Project design	
Project manager	Martin Erasmuson
Other project members	Stephen Ferriss
External providers/contractors	

Deliverables		
Milestones	Date for completion	Cost (excluding GST)
1) Review Review the priorities established during 2017, confirm actions with the Ministry and address their respective information needs: how data is currently accessed and what data is missing, where (agency) the data is located. Establish agreements in principle with agencies. Report on findings with recommendation for next phase. This review will be a complete stand-alone document.	Quarter 3 2018	$28,480.00
2) POC With reference to the priorities established in 1 above, investigate the completeness of national coverage of spatial data (for example a seamless national Tsunami risk	Quarter 4 2018	$28,480.00

[3] More information on the Auckland Collaborative forecasting project here: http://www.stratsim.co.nz/our-customers/

layer). Report on the success of that quest and show how that can be used by MCDEM's systems.		$28,480.00
3) Action plan: Develop an action plan that identifies how to obtain the required data. This action plan will be a complete stand-alone document.	Quarter 1 2019	
4) Education, Communication and Training Produce an SOP and how-to guides to describe methods for access and analysis of data using the tools available to emergency managers. This will be a valuable tool for your regional coordinators to encourage their own partners to publish relevant data for your usage.	Quarter 2 2019	$28,480.00

Identified risks	
Risks	Suggested management
Benefits are not as great as first thought	Each deliverable (milestone/phase) will deliver a complete, fully formed product. While each subsequent phase relies on the one before it, MCDEM is not reliant on completion of every stage for value to be delivered and could choose to terminate or suspend on-going work and the conclusion of each stage.

Funding request and use	
CDEM resilience fund contribution	100%
Local authority/organisation contribution	N/A
Other sources of funding or support	N/A
Budget *[Please supply spreadsheet]*	$113,920 (excl GST) plus $5,000 (excl GST) travel expenses plus $26,400 (excl GST) LINQ software as a service subscription for 12 months

Application confirmation	
Approval of Chief Executive	

CDEM Group comment
Comment