Cardno Infrastructure Delivery

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Photos: SBPP UPNG/DFAT and Solomon Islands Road Improvement Project Phase 2 / ADB, EU and DFAT
01 Cardno Approach

Company Overview

Cardno is a publicly listed multi-disciplinary consulting company.

> Australian owned and operated

> 6000 employees globally, 1750 within International Development Division under Marian Boreland

> ID has 3 ‘hubs’ – Asia/Pacific, US and EMEA. Currently working on over 170 ID programs across 100 countries

> 50 years of experience working with aid agencies, multilateral organisations, international financing institutes and private companies

> ISO 9001 certified, including IFC Performance Standards, International Council for Mining and Metals, UN Global Compact and Equator Principles

> ID Asia Pacific Infra team currently delivering 20 projects (approx. $750M AUD capex) for all 3 donors in 12 countries
Cardno Approach

Key Services
Cardno operates across the entire spectrum of infrastructure-related development assistance:
- Policy and technical advice, strategic planning and program implementation
- Technical/ Environmental/ Social Impact Assessments/ Economic Analysis
- Tender/Procurement/Contract administration and supervision
- Environmental Impact Assessment and Climate Change Adaptation design and delivery for infrastructure concepts and outcomes
- Labour Based / Community Contracts works programs
- Safeguards and GESI

Key Clients
- DFAT
- ADB
- World Bank
- USAID/Millennium Challenge Corporation
- DFID
02 Program Examples

Current Infrastructure Programs

**Indonesia - Australia Partnership for Infrastructure (KIAT)**

**Donor:** DFAT

**Project:** Provincial Road Improvement and Maintenance (PRIM) Demonstration Project

**Stakeholder:** Central Government of Indonesia and Provincial Government of West Nusa Tenggara

**Cambodia Agricultural Value Chain Program (CAVAC)**

**Donor:** DFAT

**Project:** Water Irrigation Subproject - Char I (Takeo Province)

**Stakeholder:** C.NO Investment and Construction Co. Ltd
Vanuatu – Cyclone Pam Road Reconstruction Project

**Donor:** ADB

**Project:** Cyclone Pam Rehabilitation – Various works

**Stakeholder:** Ministry of Infrastructure and Public Utilities

Nauru – Port Development Project – Project Design and Construction Supervision

**Donor:** ADB in association with DFAT, JICA and GCF

**Project:** Nauru Port Redevelopment – Design

**Stakeholder:** Government of Nauru
03 Case Study

Papua New Guinea – Technical Enabling Unit (Donor: DFAT)

The Technical Enabling Unit commenced in 2014 to:

- Support the effective implementation of capital infrastructure investments on Health, Education and Law and Order and other strategic infrastructure investment documents;
- Provide the rationale for the investments, proposed management arrangements, affordable design standards, oversee construction delivery, quality, manage risks, and monitor and evaluate the effectiveness of implementation.

Over the last five years, the program has delivered key infrastructure in areas including:

- **Health** – Site master planning, design and delivery of works packages for the redevelopment of ANGAU Hospital in Lae;
- **Education** – Design management, tendering, procurement and contract administration for new buildings (SBPP, Student Services, Lecture Theatre) at UPNG and at Institute of Public Administration (Admin Building and Library Centre) as well as rehabilitation of essential infrastructure at various other sites.
- **Law and Justice** – Master planning and design management of proposed new lower courts complex in Port Moresby;
- **Hazardous Material Assessment** – Development of policy and procedures for HAZMAT including ACM safe work policies and training;
- **Other works projects** – including NMAG Refurbishment, Koki Market new buildings, Gerehu Earth station, Highlands Earthquake asset review and design assistance
03 Case Study

Papua New Guinea – Technical Enabling Unit

Project: School of Business and Public Policy
Stakeholder: University of Papua New Guinea

Project: Lecture Theatre
Stakeholder: University of Papua New Guinea
Papua New Guinea – Technical Enabling Unit

**Project Title:** National Museum and Art Gallery Masterplan and Refurbishment Project

**Stakeholder:** NMAG

**Project Title:** Koki Market Transit Centre

**Stakeholder:** National Capital Development Commission
Lessons Learned - Generally

- Larger programs with multiple packages bring bigger contractors
- Establish prequalified design and contractor lists
- Plan for flexibility/evolution/growth and/or reduction in program deliverables
- Invest in a core team of infrastructure personnel
- Develop trusted relationships and team work with government and donor (DFAT/ADB/WB) counterparts
- Strengthen dialogue on gender, social inclusion and child protection related to infrastructure projects to ensure they meet the needs of all citizens
Lessons Learned - Technical Enabling Unit (TEU) Specifically

> Manage **client expectations** relating to program - infrastructure projects have long lead times for project preparation, design and delivery.

> **Scope of works** must align with site conditions – such as identification of and safe removal and disposal of Asbestos Containing Material (ACM)

> Approach **design and delivery of infrastructure projects as per current** industry expectations

> Allow for **contractor briefing sessions**

> Establish project specific HSE plans outlining protocols and identifying potential WHS **risks and mitigation strategies** for each site

> Allow for **on-site supervision** of contractors progress

> **Develop local capacity and technical capability** by employing trained personnel that can be mentored and trained as part of works delivery.
04 Lessons Learned and Insights

Design and Construction Industry Trends
(from the WEF 2017 Construction Industry White Paper)

> Focus on Design and Construction Management for collaboration

> Value Management as mechanism for sourcing better options

> Technological innovations that can be transferred from other industries

> Sustainability and resilience linked to better building and infrastructure outcomes

> Design and construction methods that reduce climate change, carbon emissions, energy & waste by-products that are a direct result of infrastructure works
Thank you

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