

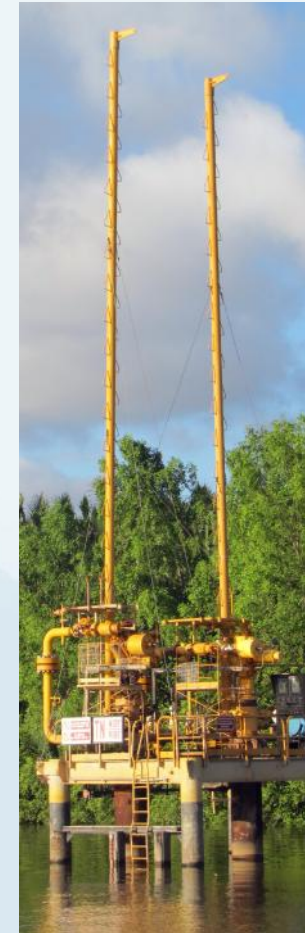


# Earth Observation for Oil and Gas Onshore Study

*Kick Off Meeting  
March, 2014  
Frascati, Italy*

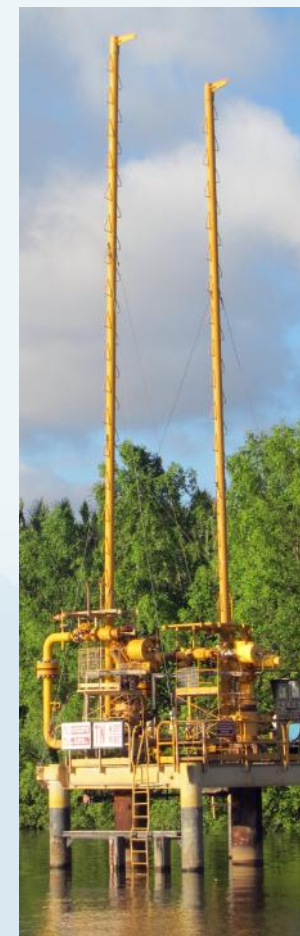
# Hatfield Consultants

- › Provided environmental services to industry and government for 40 years
- › 120+ professional staff in offices in Canada, Southeast Asia, and Southern Africa
- › 2500 projects completed in over 40 countries
- › Helps Oil and Gas clients improve their environmental programs
- › Geographic focus on western and northern Canada, Southeast Asia, and West Africa



# Hatfield Consultants

- › Manage \$5 million annual regional environmental monitoring program in Athabasca Oil Sands, Canada
- › Providing support to Cumulative Impact Monitoring Program in Northwest Territories, related to O&G and Mining
- › Environmental baseline studies and monitoring for International Oil Companies in Southeast Asia
- › Information and Communication Technology study and trial platform for World Bank for monitoring O&G sector in Ghana



# RPS Group / RPS Energy

- › Consultancy employing over 5,000 professionals
- › Major regional offices in North America, Europe, Middle East, Australia and South East Asia
- › Helps clients develop natural energy resources across the complete asset life cycle
- › Clients include governments, National Oil Companies, International Oil Companies, independents, financial institutions, and companies in the broader energy industry



# Arup

- › International engineering consultancy with over 10,000 staff in 90 offices in 37 countries
- › Served Oil and Gas clients for over 30 years, operating from skills bases in Houston, London and Perth
- › Projects in more than 160 countries
- › Wide range of service areas during all phases of project lifecycle in a wide range of geographies and environments



# C-CORE

- › Not-for-profit research and development corporation that undertakes applied research and development
- › Multi-disciplinary organization with world-leading capability in Remote Sensing, Ice Engineering and Geotechnical Engineering.
- › Hosts LOOKNorth, a Canadian Centre of Excellence for remote sensing innovation to support northern resource development, and the Centre for Arctic Resource Development (CARD) – a long term R&D initiative in partnership with the oil and gas industry





# Space Research Centre

- › Part of the Polish Academy of Sciences
- › Earth Observation Group is dedicated to satellite images processing and to GIS applications.
- › Involved in several Copernicus (GMES) projects and related services
- › Specialized in land cover and land use classification using object-oriented tools, change detection (optical and SAR data), advanced GIS analysis, programming, internet and mobile applications

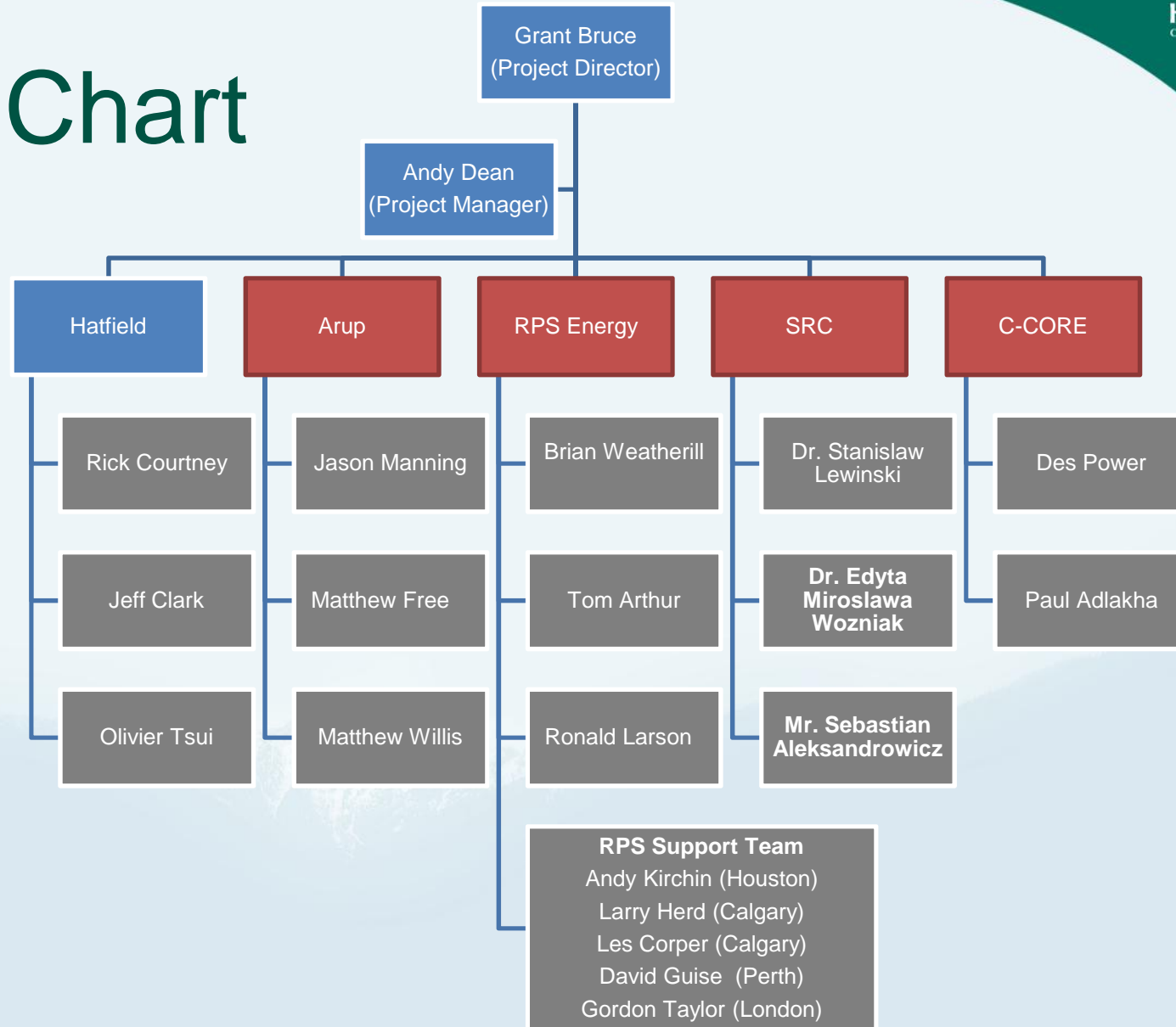


# Team's Geographic Coverage





# Org Chart



# Task1: Geo-information Requirements: Themes

- › Multi-disciplinary team with experience and expertise in providing technical consulting services to the onshore oil and gas sector
- › Several recent former senior employees of major Oil and Gas companies and individuals with 30 years' experience in the sector

	Hatfield	RPS Group	Arup	SRC	C-CORE
Seismic planning		Lead	Support		
Surface geology	Support	Support	Lead		
Subsidence monitoring			Lead	Support	Support
Environmental monitoring	Lead	Support			
Logistics planning and operations		Lead	Support		

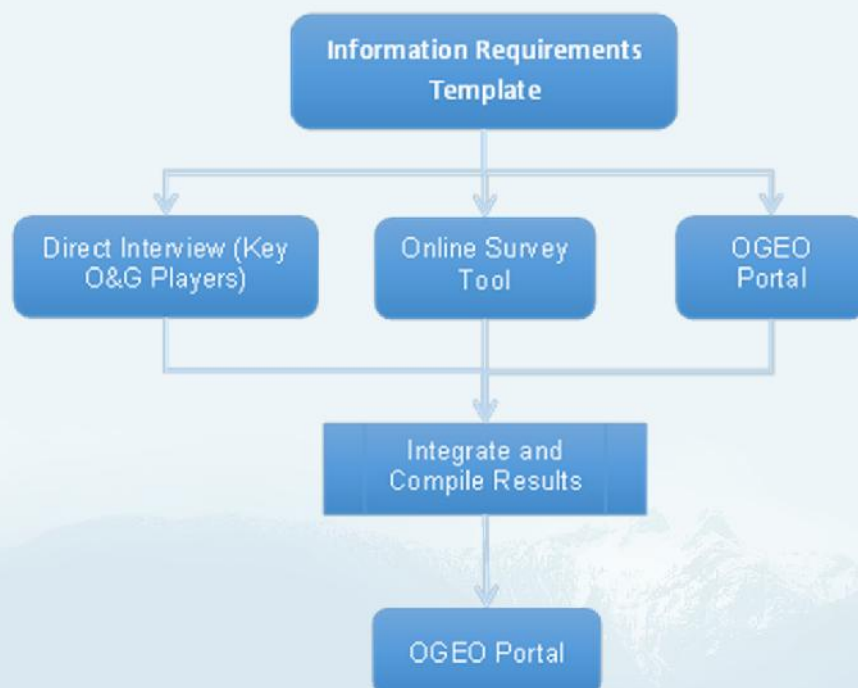
# Task1: Geo-information Requirements: Geographic Areas

- › Team of companies recognized worldwide with unique global onshore Oil and Gas sector expertise
- › Work collaboratively across offices to access to resources, skills and experience.

	Hatfield	RPS Group	Arup	SRC	C-CORE
Canada	Lead	Support			Support
Poland		Lead		Support	
Australia		Lead			
Kenya		Support	Lead		
Peru		Lead	Support		
Papua New Guinea	Lead	Support	Support		
Indonesia, Malaysia, Brunei	Lead	Support			

Note: Hatfield/Arup to be involved in Algeria consultation

# Task1: Geo-information Requirements: Approach



Coordination between groups:

- › Information requirements assessment framework
- › Direct consultation
- › Online survey
- › OGEO Portal

## Task 2: Definition of Current EO Capabilities and Use

- › Hatfield and partners with most expertise in EO, namely C-CORE, Arup and SRC
- › Identify mature EO-based information products responding to the identified geo-information needs
- › Case study examples of use
  - › Cover different geographic regions, providing coverage of a range of climate and vegetation zones
  - › Include each of the oil and gas activities that have been identified, e.g. RPS Group seismic planning using EO data; Hatfield environmental monitoring services; and Arup geotechnical for infrastructure development
- › Workshop





# Key Team Contacts

- › Hatfield
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