



Technology

> *Presentation of line of work*

March 10, 2021



VANTAZ
Specialized
Mining
Consulting



20 years

+200 consultants

+1300 projects

The Vantaz Group

We are a group of international companies, with a presence in Chile, Peru, and Australia, born out of the need to provide a comprehensive value proposition to the mining industry.



Offices:  Chile  Australia  Peru  USA





Our IT/OT technology line





4 IT/OT service categories

— Vantaz offers four services categorised as information technology (IT) and operation technology (OT)



IT/OT Business Architecture

- Together with the business, Vantaz has developed a strategic capacity to define an effective conceptual plan that defines the structure and operations of the organisation to meet its objectives.



IT/OT Transformation and Integration

- After the analysis of IT/OT systems and their requirements, Vantaz offers high-level solutions with cutting-edge technology for transformation or integration.



IT/OT Assurance and Control

- Vantaz guarantees that IT/OT implementations are carried out in keeping with customer requirements, standards and needs, and the system design.



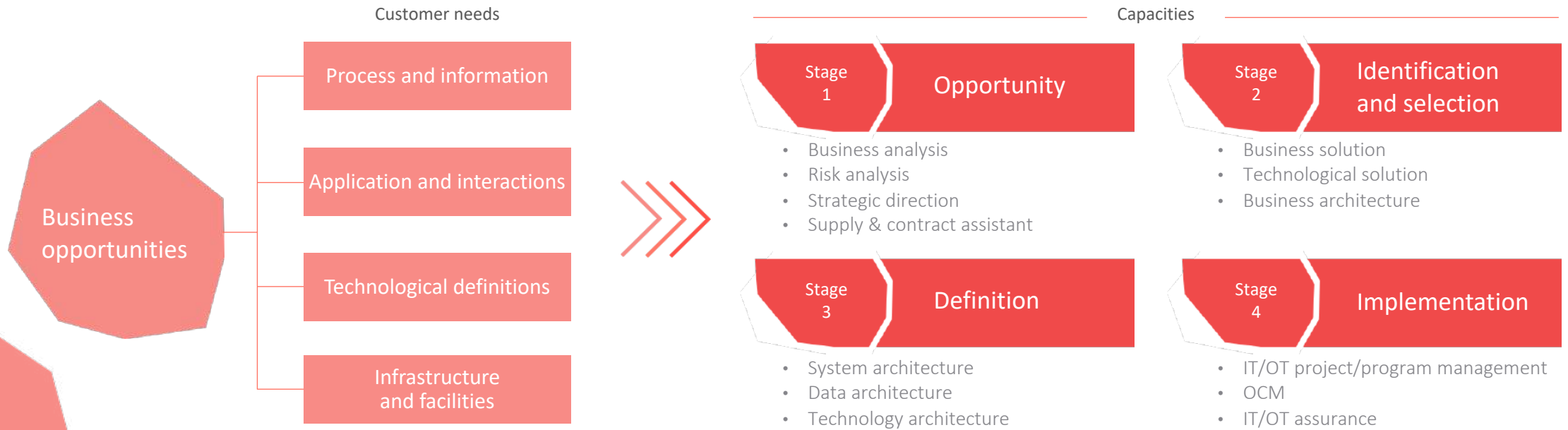
IT/OT Program and Project Management

- Vantaz applies knowledge, skills, tools, and techniques to meet project requirements, objectives, and deadlines.



Vantaz meets customers' needs

— Vantaz can offer IT/OT solutions for all stages, from analysis and strategy to quality control and delivery.





Stage 1: Opportunity

Capacity

Business analysis



- We identify the business needs on an operational level (through field research) that are aligned with the principles established by the company (standards, safety, and architecture).
- We align the operations approach with business needs.

Risk analysis



- We identify the potential risks involved in a business investment for planning in advance and maintaining control throughout the process.

Strategic direction



- We identify and analyse the impact that a business investment will have on the different areas of an organisation to prepare change management plans accordingly.

Supply & contract assistance



- We identify strategic supply methods that best meet the business needs.

Experiences

- Business, risk and solution analysis and recommendation for access control system 2017.
- Supply category management (production technology) 2017.



Stage 2: Identification and selection

Capacity

Where we add value

Experiences

Business
solution



- We evaluate and transfer the business requirements to solution models that enable the development of a technological and operational transformation plan.

Technological
solution



- We develop conceptual models and/or solutions, considering the conditions of the company, the available technology, and good market practises.

Business
architecture



- We develop technological architecture considering industry standards, different methodologies, and assessments of capacity, organisational context, scope, and impact.

- Security model for CORE network 2010-2012.
- Renovation and consolidation of the data centre Infrastructure 2012.
- Integrated operations management centre 2013.
- PCN network segregation and PCN application standardisation 2014-15.



Stage 3: Definition

Capacity

Where we add value

Experiences

System architecture



- We develop systems architecture within a mining operation to analyse and improve its design, functionality, coverage, and overall effectiveness in relation to its business processes.

- Design, engineering, upgrade, and virtualisation of the (PCN) hydrometallurgical control system (cathode) 2013.

Data architecture



- We establish effective models, rules, and/or standards that govern which data and/or information is compiled, and how it is stored, organised, integrated, and put into practise to make informed decisions about business processes.

- Design and architecture of platform control system plants in CORE networks 2012.
- Design and virtualisation of filter control system and port facilities 2016.

Technology architecture



- We evaluate and update the software and hardware capacities to guarantee that the organisation can maintain its current technological services and integrate new technologies and components, including IT, connection layers, networks, communications processing, and safety mechanisms.

- Design and platform architecture for mine operations CORE network 2013-2014.
- Design and architecture segregation of industrial network cathode plant 2017.

Stage 4: Implementation

Capacity

IT/OT program and project management



- We configure the PMOs for large operations and programs.
- We configure PMI project plans and help with follow-up and status reports.
- We help with budget control and financial activities.
- We help with acquisitions, management, and tender development.
- We define potential risks, problems, hypotheses, and records of dependency.
- We act as a third party with vendors.

Organizational change management



- We provide reports on the analysis and commitment of interested parties.
- We carry out assessments of local impact and provide mitigation.
- We design and implement training and communication programs.

IT/OT technical advising on quality control and quality assurance



- We set up software, hardware, and cloud.
- We provide key design elements recommended by experts on modern technology.
- We provides support through the SME/Q&A throughout the process.
- We provide practical solutions by working in conjunction with staff members.

Where we add value

Experiences

- Implementation of CORE network service platform (Level 3) 2011.
- Upgrade and integration of: a) hydrometallurgy control systems to CORE networks (cathode) 2012.
- b) Concentrator LC/LS plant control system to CORE networks 2012.
- Upgrade and virtualisation of the (PCN) hydrometallurgical control system (cathode) 2013.
- Standardization and upgrade of desalination control system 2014.
- IT integration during demerger 2015.



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