

Escuelas Bicentenario **Bicentennial Schools**

A dynamic integration between Programme Management
and its PMO



“


Programme Controls Manager currently helping PEIP-EB*, a new Peruvian organization in charge of delivering the Bicentennials Schools Programme, to structure and implementing its Governance and its Programme Management Office (PMO).

Diego Guevara

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* PEIP-EB stands for "Proyecto Especial de Inversión Pública, Escuelas Bicentenario"

“

Programme Management Lead, providing Project Management and Technical Assurance support for the construction of 75 new schools and development of a Client team for future work.

Matthew Fitch

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 matthew.fitch@macegroup.com



The Peruvian infrastructure gap “Fighting against the trend...”



The Problem: The growing Peruvian Infrastructure gap

A gap of more than...

\$25bn

In education
infrastructure*

No more than...

15%

on effective
investment execution
in all the Ministries**

A maximum of ...

5%

on effective
investment execution
in education
infrastructure**

* According to the "00705-2020-MINEDU/VMGI-DIGEIE-DIPLAN Report", December 2020.

** According to "Friendly Survey" (our translation) in April 2020.



Success Cases: Lima 2019 – New Delivery format



Lima 2019 Pan American Games

5
venue
clusters

44 hectare
Athlete's
Village

“Delivering the Pan American and Parapan American Games venues for a month of world-class competition and a lifetime of local opportunity.”

41
competing
nations

8,500+
Competing
athletes





Peru - Reconstruction with Changes

74
schools
constructed

51,000
hectares of
reforestation,
terracing and
revegetation

“Rebuilding critical
infrastructure
following the
devastating
impact of El Niño
in 2017”

20
flood defence
projects

15
health
centres

Escuelas Bicentenario Programme

Bicentennial Schools Programme

The future of any of our countries depends on education and its impact on the next generation of professionals and leaders, starting with quality educational infrastructure projects.



Main Objectives of the Programme



Optimisation of the design and construction of 75 new schools in Lima and 9 other regions of Peru – including its O&M.



Develop and implement the governance, procedures and policies necessary for establishing a Programme Management Office.



Establish a legacy for successful delivery of infrastructure programmes under a new legal framework, updating the current legislation with any lessons learned



Upskilling and transferring knowledge to the Client team to enable successfully and independently deliver in the future.

Design Optimisation, Construction, and O&M plans for 75 schools



75 Bicentenary Schools

➤ METROPOLITAN LIMA



**59 SCHOOLS
TO REDEVELOP**



**97,000
STUDENTS
TO BENEFIT**

➤ REGIONAL

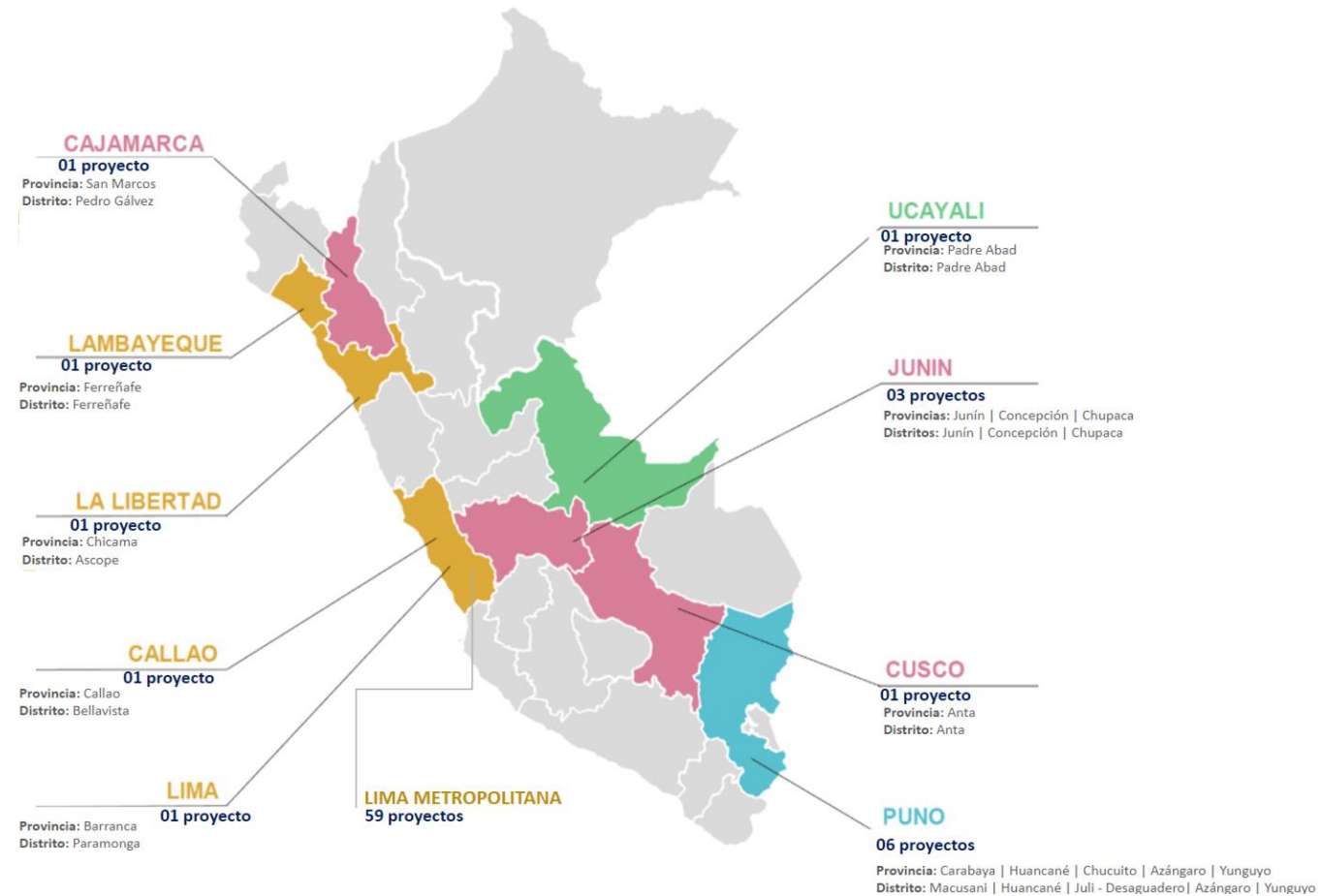


**16 SCHOOLS
TO REDEVELOP**



**17,000
STUDENTS
TO BENEFIT**

In 9 regions and 21 districts within Metropolitan Lima





01 Escuela Territorio COSTA

INTERESTES
El estudio de contexto para los planes constructivos...
ESTRATEGIAS BIOLIMÁTICAS
El estudio de contexto para los planes constructivos...
ESTRATEGIAS BIOLIMÁTICAS
El estudio de contexto para los planes constructivos...

01 Escuela Territorio Ecosistemas de Aprendizaje COSTA LLUVIOSA

1 Espacios innovadores
El diseño de espacios de aprendizaje innovadores...
2 Doble piel
El estudio de contexto para los planes constructivos...
3 Modulación exhaustiva
El estudio de contexto para los planes constructivos...
4 Suelo
El estudio de contexto para los planes constructivos...

Escuela Territorio Ecosistemas de Aprendizaje SIERRA

VISION Y PILARES
El estudio de contexto para los planes constructivos...
ESTRATEGIAS E INNOVACION
El estudio de contexto para los planes constructivos...
DISEÑO PROGRESIVO Y ADAPTABLE
El estudio de contexto para los planes constructivos...
ASIMILACION DE FENÓMENOS
El estudio de contexto para los planes constructivos...
ASIMILACION METEOROLÓGICA
El estudio de contexto para los planes constructivos...
ASIMILACION HORIZONTAL
El estudio de contexto para los planes constructivos...

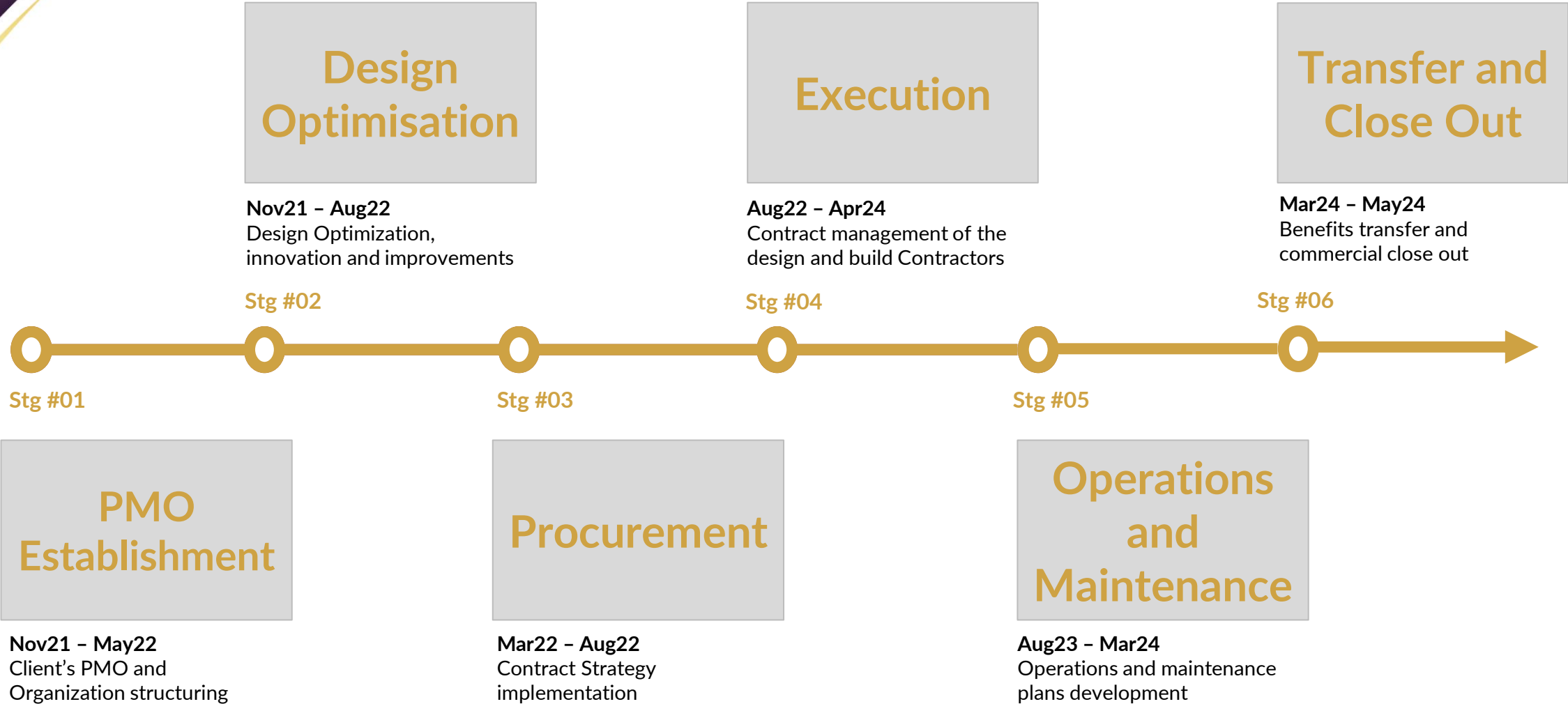
01 Escuela Territorio Ecosistemas de Aprendizaje HELADAS

PROBLEMATICA
El estudio de contexto para los planes constructivos...
ESTRATEGIA DE DESPLAZAMIENTO
El estudio de contexto para los planes constructivos...
ESPECIFICACIONES
El estudio de contexto para los planes constructivos...
ASIMILACION DE FENÓMENOS
El estudio de contexto para los planes constructivos...
ASIMILACION METEOROLÓGICA
El estudio de contexto para los planes constructivos...
ASIMILACION HORIZONTAL
El estudio de contexto para los planes constructivos...

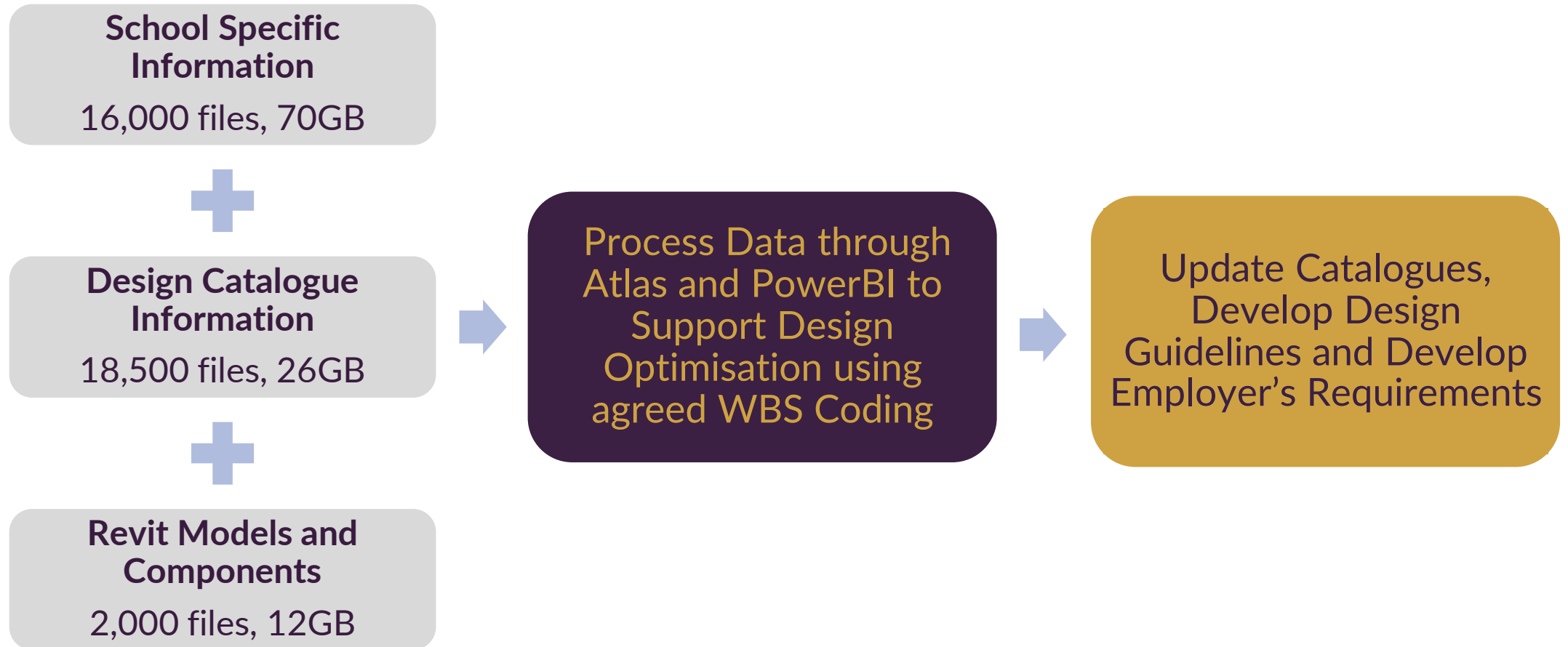
01 Escuela Territorio Ecosistemas de Aprendizaje SELVA

PROPOSTA INTEGRAL
El estudio de contexto para los planes constructivos...
DISEÑO PROGRESIVO Y ADAPTABLE
El estudio de contexto para los planes constructivos...
ESTRATEGIAS E INNOVACION
El estudio de contexto para los planes constructivos...
ASIMILACION DE FENÓMENOS
El estudio de contexto para los planes constructivos...
ASIMILACION METEOROLÓGICA
El estudio de contexto para los planes constructivos...
ASIMILACION HORIZONTAL
El estudio de contexto para los planes constructivos...

Stages of the Programme



Base Data to be Reviewed and Indexed



Benefits of this Integrated Approach

Understanding the Challenge and Framing the Programme

Processing Large Data Set Efficiently to Enable Easy Manipulation

Providing Information to Design Team to Enable Optimisation

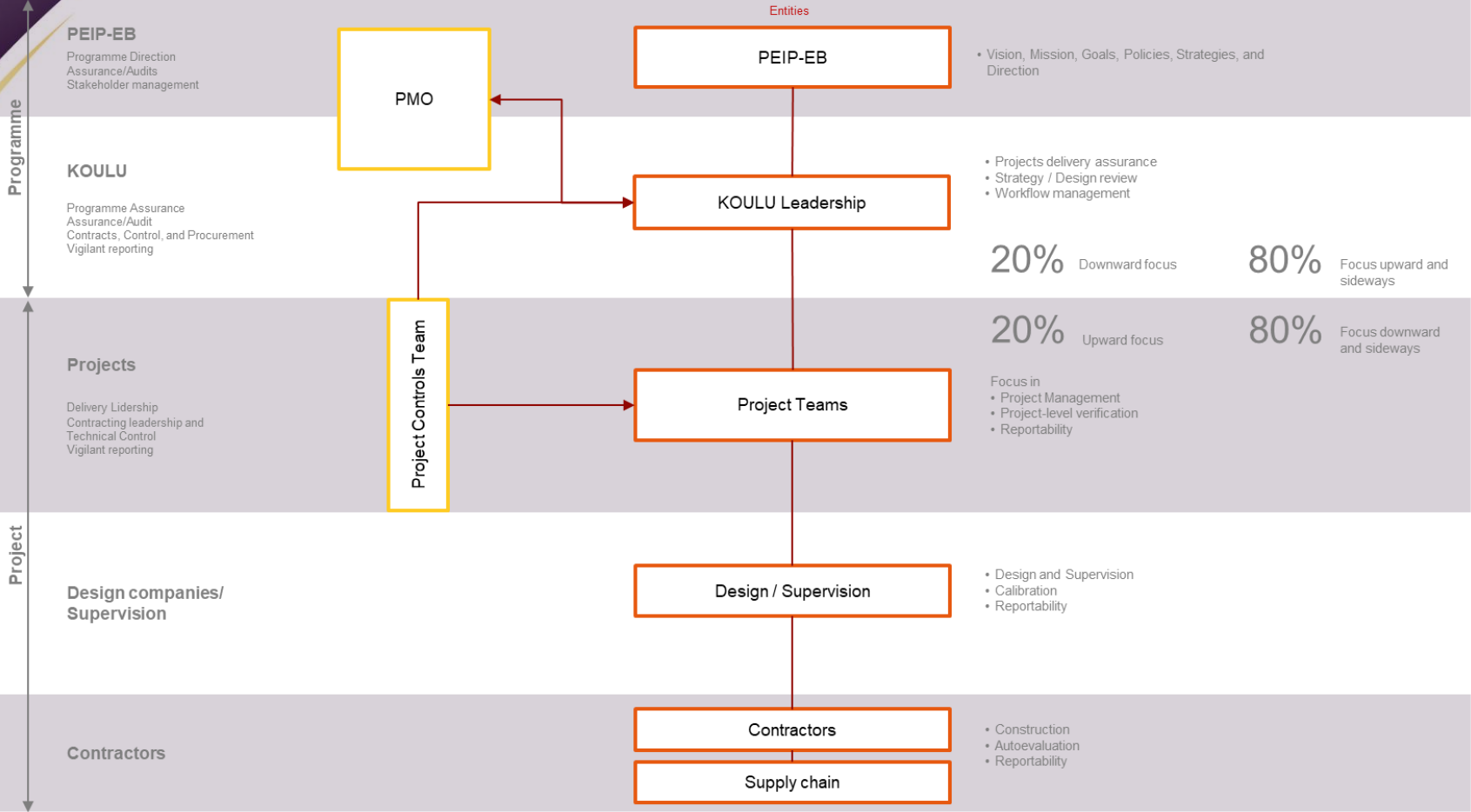
Establishing the Employer's Requirements



Establishing a Programme Management Office – PMO



How does the PMO address this...

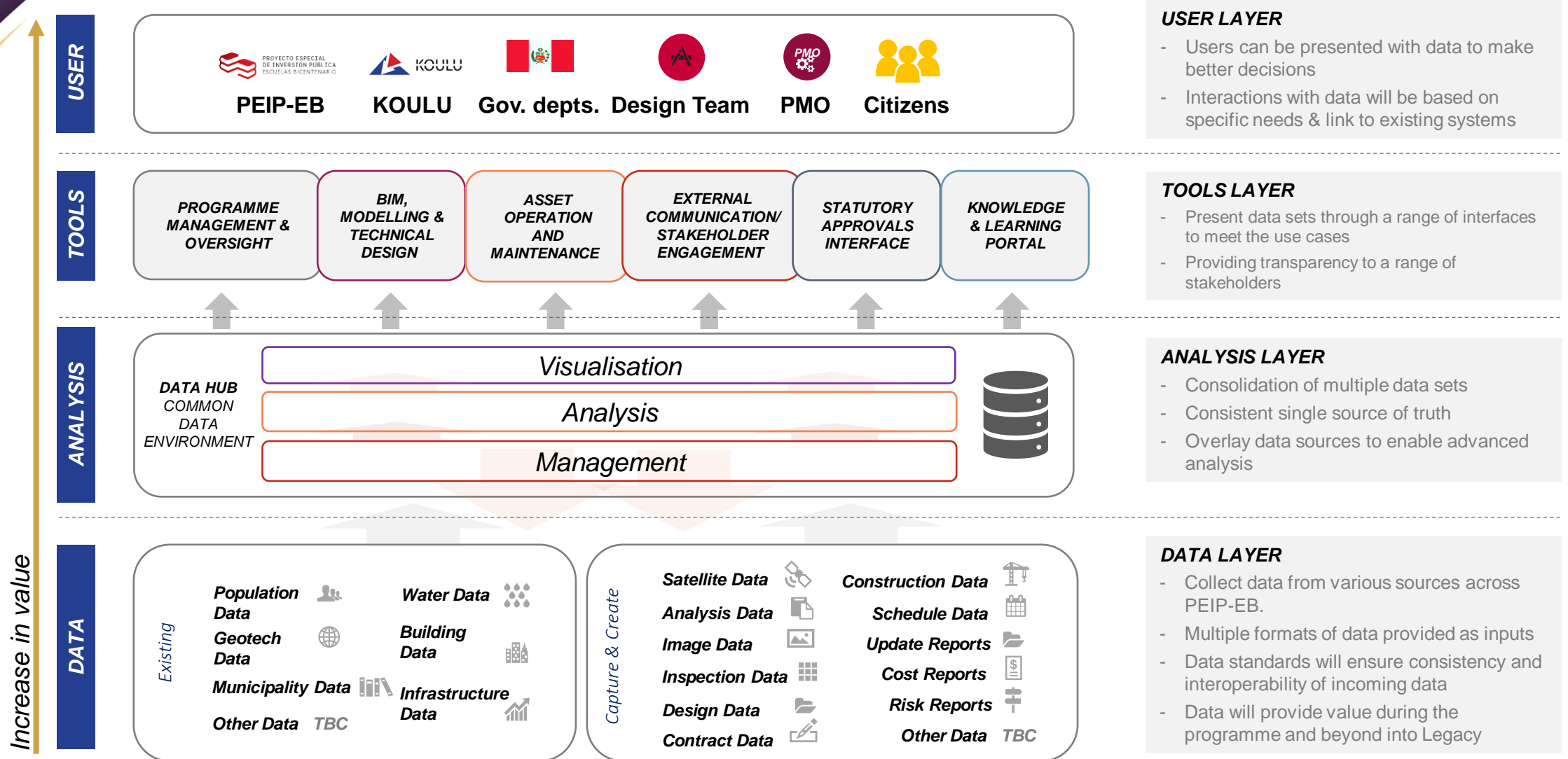


1. Developing and implementing the governance, procedures and policies along the Programme.
2. Consistent information capture by integrating the Programme and Project management focus between the PMO and the Delivery Assurance team.
3. Acting as a centre of excellence for continuous improvement.

The PMO is the engine of the program that acts as a control, advisor and centre of excellence for the execution of deadlines, costs and risks.

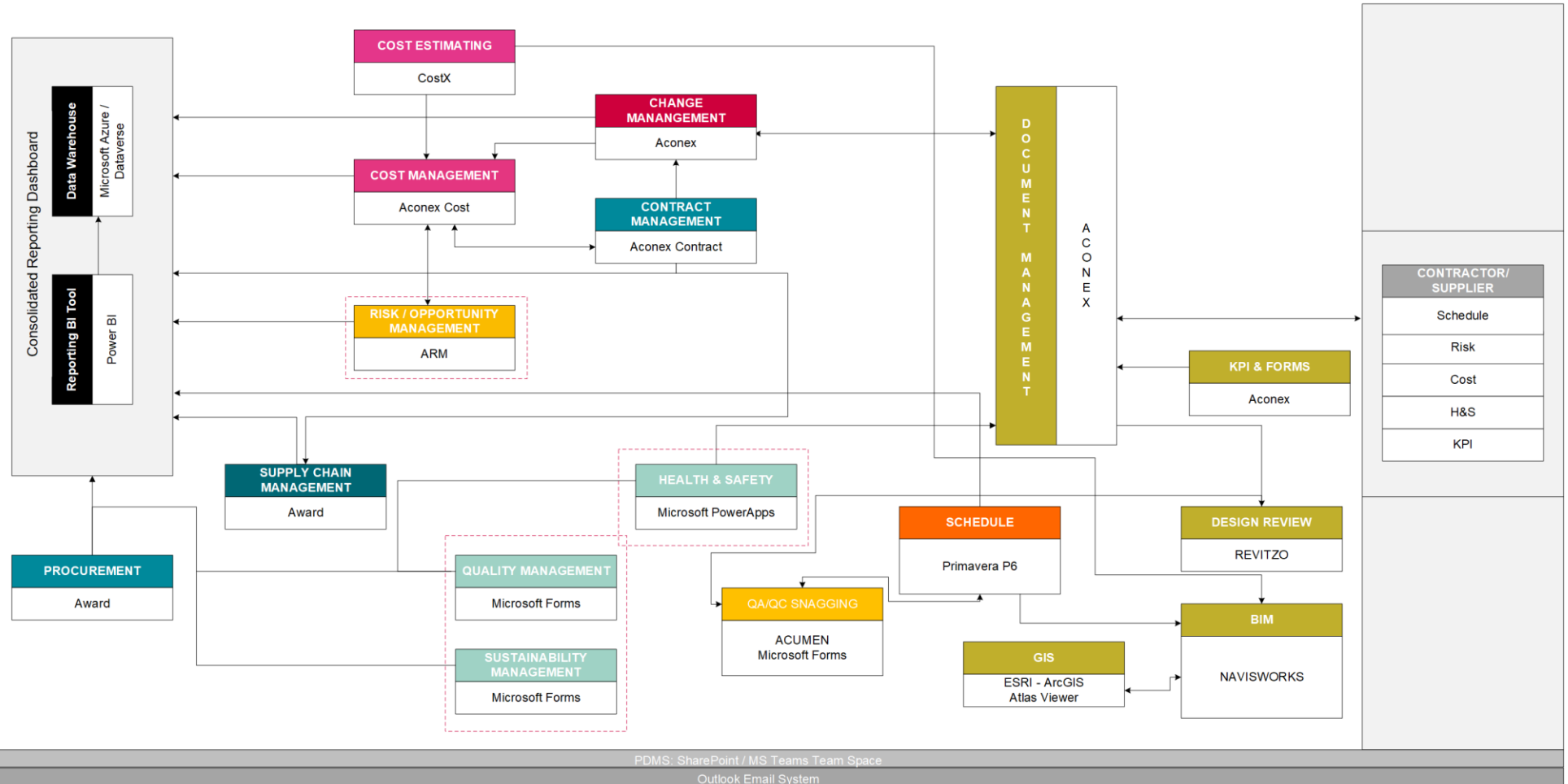


Effective and Efficient Reporting for Well Informed Decision Making



Consistent Information: Reporting Architecture

Systems Infrastructure & Interface Diagram



“To achieve a complete organisational transformation, people and digital solutions need to underpin the PMO approach.”

– Davendra Dabasia,
Managing Director for
International

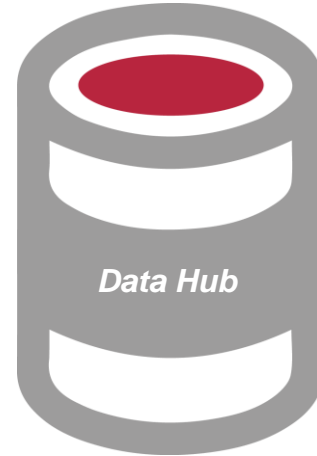


The POPIT* methodology

*POPIT: People, Organization, Processes, Information, and Technology

PDMS - Project Delivery Management System (SharePoint)

- Procurement (Award)
- Schedule Management (Primavera P6)
- Schedule Updates (Local) (Primavera Prime)
- Cost & Change Management (Aconex)
- Risk Management (ARM)
- Information Management (CDE) (Aconex)
- Contract Administration (Aconex)
- Health & Safety Management (Microsoft PowerApps)
- Sustainability Management (Optimise)
- Governance / Processes / Drumbeat / Lessons Learned / Training



The image displays three overlapping screenshots of the PDMS SharePoint interface. The top screenshot shows the main dashboard with navigation tabs like "Inicio", "Gobernanza", "PDMS", "Sistemas Digitales", "Reportes", "Transferencia de Conocimiento", and "Información clave". The middle screenshot shows a "Proyectos Educativos" dashboard with a map of Peru, a progress bar at 0%, and a table of projects. The bottom screenshot shows a "Resumen de Riesgos" (Risk Summary) dashboard with various charts and tables, including a risk matrix and a table with columns for "Riesgos Activos", "Variación", "Identificados Sin Mitig", and "Corregidos Sin Mitig".

Business Intelligence Reporting KPIs / Performance



Benefits of this Integrated Approach while establishing the PMO

Benefit Management

One and only source of
verified truth

Integration between
Programme & Project
Management

Informed and timely
Decision Making

Continuous
improvement

Establish a legacy for successful delivery
of infrastructure programmes

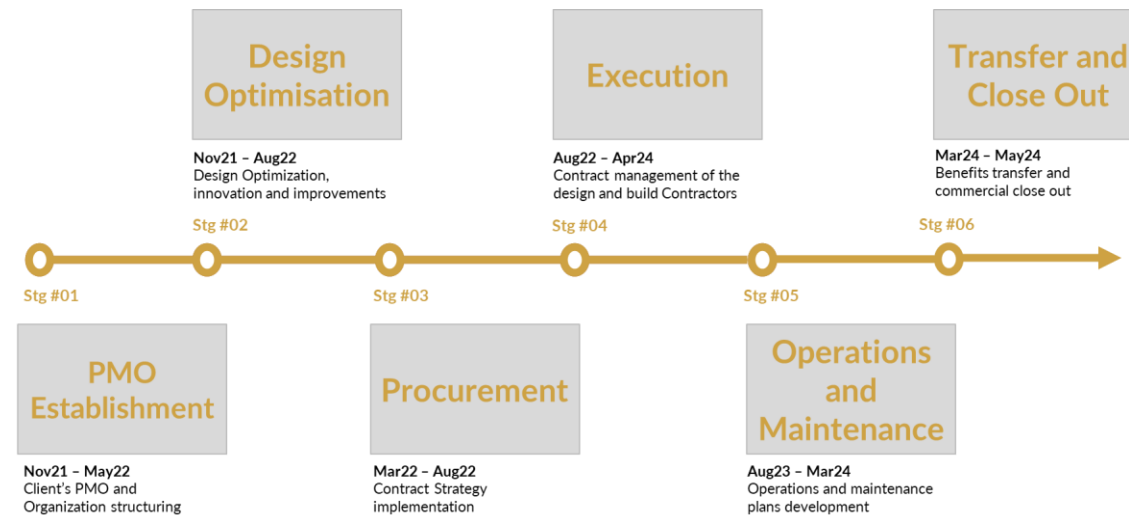


Legacy of a new Delivery Model: Proyecto Especial de Inversion Publica

Legacy is the support of continuous improvement in public infrastructure delivery

1. Improving the current framework / legal setting
2. Establishing the governance, processes and procedures for future iterations
3. Developing specific regulations and design information for the schools

However, are still in the initial stages of the programme



Roadmap to create a new Delivery Model in the Peruvian Public Sector

STEP 1

Evaluations of the current Organization's Operations Manual (MOP) and Public Sector Policies, as well as Interviews with the main roles

STEP 3

Presentation of the MOP and Policies updates to the Minister and subsequent approval of its changes

STEP 2

Workshops of implementation while integrating the lessons learned through each phase aiming to update the Operations Manual

STEP 4

Continuous improvement until the end of the Programme

This new model was created considering a **Delivery Partner** officially able to propose organizational changes based on world-class practices to deliver infrastructure Programmes.

Optimised Design Catalogues and Identify Improvements

4 Pilot Schools

200132. IE SAN FELIPE – COMAS – LIMA
COMAS, LIMA - CATALOGO COSTA

200103. IE 0085 JOSÉ DE LA TORRE UGARTE
EL AGUSTINO, LIMA - CATALOGO COSTA

200077. Jorge Basadre Grohmann
LOS OLIVOS, LIMA - CATALOGO COSTA

200090. IE 0035 NUESTRA SRA. DE LA VISITACION
LIMA, LIMA - CATALOGO COSTA

Landscape & Masterplanning

Fire

Structures

Bases de datos CENEPRED (2018)

Precipitación máxima diaria Percentil 95%

Susceptibilidad a Lluvias fuertes

Susceptibilidad a El Niño

Predisposición a presentar inundaciones en relación a la ocurrencia de lluvias fuertes o de fenómenos como El Niño

Location and School Data

Catalogues and Regional Data

200103 IE 0085 JOSÉ DE LA TORRE UGARTE EL AGUSTINO, LIMA - CATALOGO COSTA

Ideal Orientación

Movimiento solar

Plano 4. Planta primer nivel

Pros:

- Scale/geometry of main entrance links back nicely with surrounding
- Good distribution of open spaces + interesting planting concept
- Gardens can contribute to the drainage system.

Opportunities & Concerns:

- Maximise classroom Buildings North orientation (ie Primary classrooms)
- Place circulation corridors on the southern facades
- Improve/review ramp design (i.e extent, location)
- Dedicated play space away from main patio is required for initial kids
- Potential stair relocation to reduce dead-ends at southeast wing
- No accessibility for emergency / fire vehicles to inner site blocks
- No hazards analysis: Opportunities to identify the hazards early and design the masterplan accordingly
- No drainage layout - Opportunities to design drainage system to contribute to wider sustainability goals through gravity system and SUDS
- No topographical study - Opportunity to optimize earthworks drainage and flood mitigation by working with the existing topography.

200103 IE 0085 JOSÉ DE LA TORRE UGARTE

Resumen en los informes de riesgo recibidos del PEIP-EB

Revisión preliminar de los peligros MHA

Tipo	Tipo	Clasificación de Peligro
De origen Natural	Sismos	Bajo
	Tsunamis	No hay riesgo
	Deslizamientos	Bajo
	Huaycos	Bajo
	Derumbes	Bajo
Inducidos por la actividad humana	Erosion	No hay riesgo
	Inundaciones	No hay riesgo
	Incendio	No hay riesgo
	Derrame de sustancias	No hay riesgo
	Contaminación	Bajo

Hazard	Hazard level
Earthquake – ground shaking	Very High
Earthquake – fault rupture	Very Low
Tsunami	NA
Landslide (susceptibility)	Low
Landslide (hazard)	Medium
Flood susceptibility to Heavy Rains	Medium
Flood susceptibility to El Niño	Medium
Coastal flooding	NA
Coastal erosion	NA
Drought	High
Wildfire	Medium
Glacial Lake Outburst Flood (GLOF)	Low
Snowfall	Very Low
Karst	Very Low
Volcano	Very Low

School Design Improvements

Multi-Hazard Assessments



Benefits of this integrated approach

Easy Access to Data to
Establish the Baseline

Providing 'Live'
Feedback to Changes
and Decisions

Provide a Framework in
which the Organisation
Operates

Upskilling and transferring
knowledge



Maturity Assessment & Staff Capability



The baseline Maturity Assessment documents of PEIP-EB's current maturity position with regards to knowledge of process and staff capability, against which improvement over the programme duration can be measured.

KOULU have undertaken two baseline assessments of core programme management functions. One to assess the maturity of the systems and processes, and the other to assess the PEIP-EB capabilities to manage those processes and systems. Each of these baseline assessments are aligned to a rating of 0 to 5 against which improvement over the programme duration can be measured. These scores are linked as the maturity of the processes and systems will allow for the PEIP-EB to improve capability maturity.

"AS IS" RATINGS

- 0 No evidence of process or systems
- 1 Limited evidence or ad-hoc processes but no systems
- 2 Limited evidence or ad-hoc processes and systems
- 3 System and process in place but not utilised by all the programmes / projects
- 4 System and processes in place and well utilised in most programmes / projects
- 5 Well defined integrated processes and system in place, utilised by all the business

Questionnaire surveys have captured the skill sets and the knowledge of PEIP-EB staff with regards to both their current roles and that of the future demands and roles of the programme.



Knowledge Transfer – 70-20-10 learning model



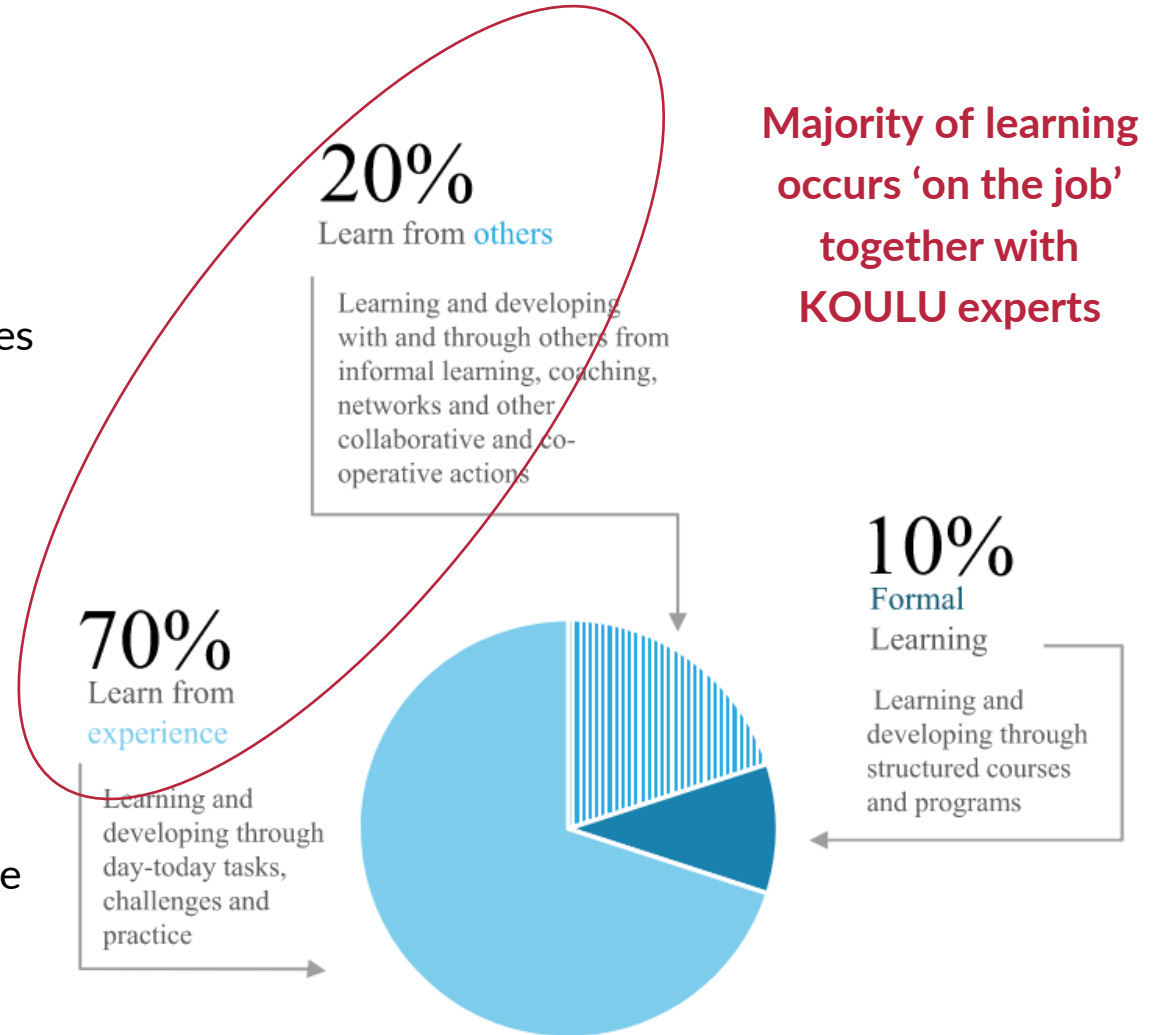
'10%' - Formal structured learning, e.g. training courses



'20%' - Social learning, e.g. training, workshops



'70%' - Workplace learning, e.g. on-the-job experience



Learn from others, experience and formal training

“The Knowledge Transfer is done in a day-to-day basis by putting hands in the job with a permanent specialized assistance in all the tasks performed by the PMO and the Project team members”

— Steve Roarty,
PMO Director

The screenshot shows a SharePoint page for 'Koulu Working Area'. The left sidebar contains a navigation menu with items: Home, 00_Deliverables, Commercial, Knowledge Transfer, Procurement, Programme Management, Project Controls, Stakeholder Management, Technical Assurance, Notebook, Tasks, JV Action Tracker, Recycle bin, and Edit. The main content area features a header with 'New', 'Send to', 'Page details', and 'Immersive Reader' options. Below the header is a large banner image of a modern office interior with the title 'Training Instructions'. The text below the banner reads: 'Hi Trainer! Excited to get started with training sessions? Or worried? Maybe frustrated because you have a lot on your table? It's all ok. We'll keep developing this page so that you could have clear instructions on what to do as a trainer. Hopefully, saving your valuable time while making sure we enable great learning results within our client organisation.' Below this text are three numbered steps, each with an image and a caption: 1. Read: Training Delivery Guide (image of books), 2. Fill in: Training Brief (image of a pen and paper), and 3. Fill in: Training Agenda & Delivery Plan (image of a hand holding a pen over a document).



Benefits of this integrated approach

Capabilities upgrading
Tracking

Direct relationship
between Theory and
Experience

Alignment between
external and internal
goals

Sustainable Model

Continuous
improvement



The “**Escuelas Bicentenario**” Programme will help the Peruvian Country not only to build a legacy of 75 new schools but to create a new and sustainable delivery model.



A successful Programme Management requires a clear awareness of its expected benefits and its defined strategy, **its integration with its PMO** is key for doing so throughout the whole organization.



The **delivery partner** approach brought the best outcome of this dynamic integration: by creating a clear, transparent, and collaborative environment adopting the best practices within the programme, while knowledge sharing.



“To achieve a complete organisational transformation, people and digital solutions need to underpin the **PMO approach**. When everyone buys into a common goal, a cohesive team with common practices and culture can be formed, keeping programmes on track.”

THANK YOU

