INVESTOR PROPOSAL · ENGLISH VERSION

TWO

Integrated waste recovery

A 50 t/day plant conceived as complete, controlled industrial infrastructure suitable for integration within an urban setting.

€ 39 million | **10,000 m²** | **24 months**

Preliminary design basis · Investment evaluation document

Reference industrial component image

THE INITIATIVE

From a local challenge to an industrial asset

Value lies not in a single machine, but in the continuity linking waste reception, processing, recovery and plant operations.

01

Need

Complex and varied waste streams
Dependence on transport and disposal
Need for control and traceability

02

Infrastructure

Controlled reception and storage
Two-stage thermochemical conversion
Heat and power recovery

03

Operational asset

Automation and monitoring
Buildings, utilities and safety
Training and start-up included

Project objective to establish reliable local capacity, ready to be permitted, built, commissioned and operated as one integrated system.

THE TECHNOLOGY

Two separate stages, one controlled process

The organic fraction is first converted into process gas under oxygen-starved conditions; the gas is then oxidised in a dedicated secondary chamber.

1 PRIMARY CELLS

Controlled thermochemical conversion
Oxygen-limited environment
Process gas generation
Modular batch operation

PROCESS GAS

2 SECONDARY CELL

High-temperature oxidation
Continuous gas feed
Reaction completion
Heat available for recovery

RECOVERY

heat exchanger + ORC

CONTROL

DCS / PLC / SCADA

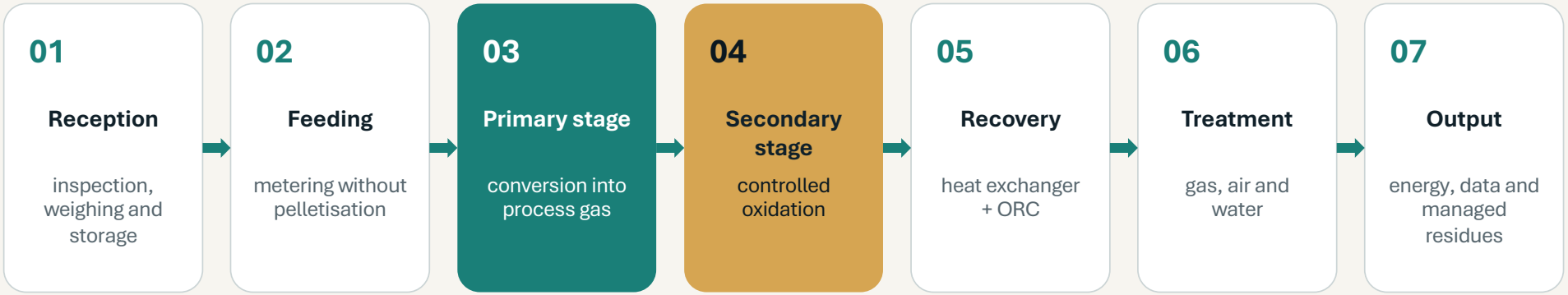
TREATMENT

air, gas and water

PROCESS FLOW

From waste reception to monitored outputs

Conceptual configuration: the mass and energy balance will be consolidated after characterising the 50/50 feedstock mix.



FEEDSTOCK BASIS

EWC codes, calorific value, moisture, inert content and contaminants must be validated before final sizing.

PLANT ARCHITECTURE

The TWO package is a system, not a single unit

The process sections are engineered to operate as an integrated, controllable architecture.

A **Conversion**

modular primary cells
secondary cell
process gas management

B **Recovery**

heat exchanger
ORC / turbine
cooling

C **Intelligence**

PLC and DCS
software, HMI and SCADA
process instrumentation

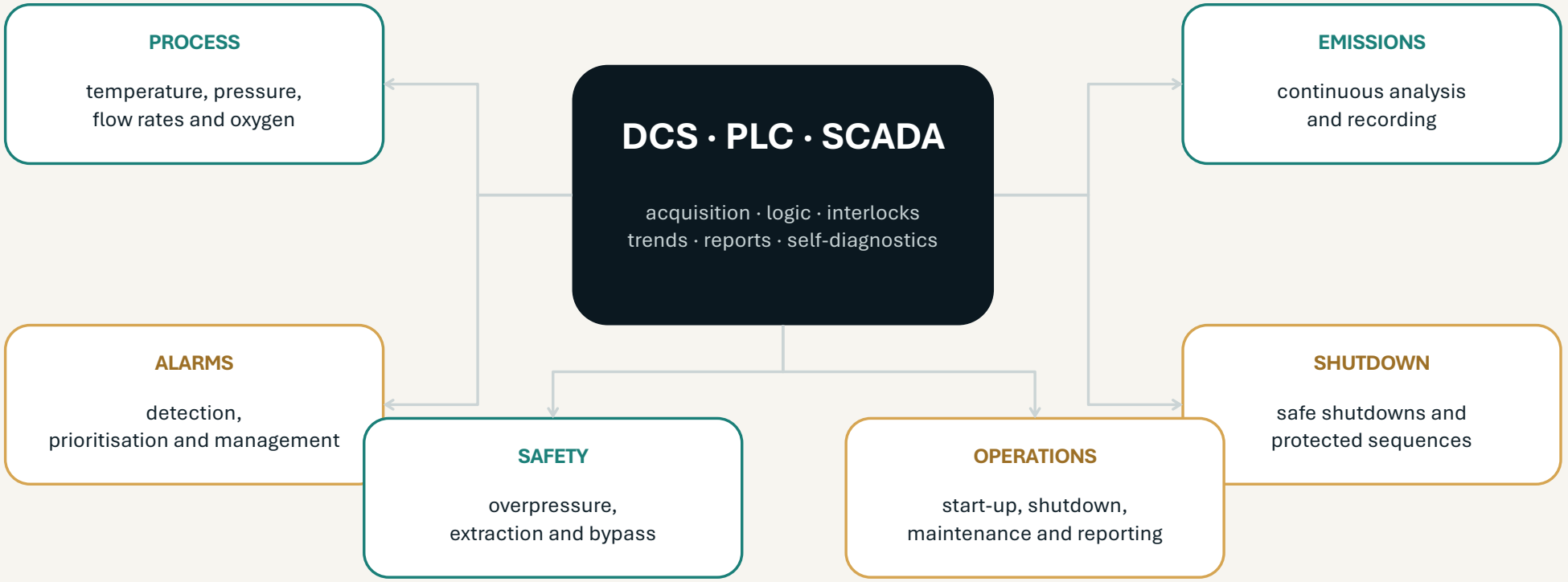
D **Protection**

flue-gas and air treatment
compatible water systems
emissions analysis

CONTROL & SAFETY

One control room governs the entire process

Data, alarms, automated sequences and safeguards are consolidated within a single operating architecture.



ENERGY RECOVERY

Heat becomes a valuable utility

The final configuration and net performance will depend on the actual composition, moisture, LHV and availability of the incoming feedstock.

01 **Heat from the secondary stage**

hot gas available for recovery

02 **Heat exchange**

controlled energy transfer

03 **ORC / turbine**

power generation and thermal management

04 **Utility integration**

self-consumption, grid and potential heat uses

URBAN INTEGRATION

The plant as urban infrastructure

The process can be enclosed within a unified architectural envelope designed to manage flows, noise, odours, safety and maintenance.

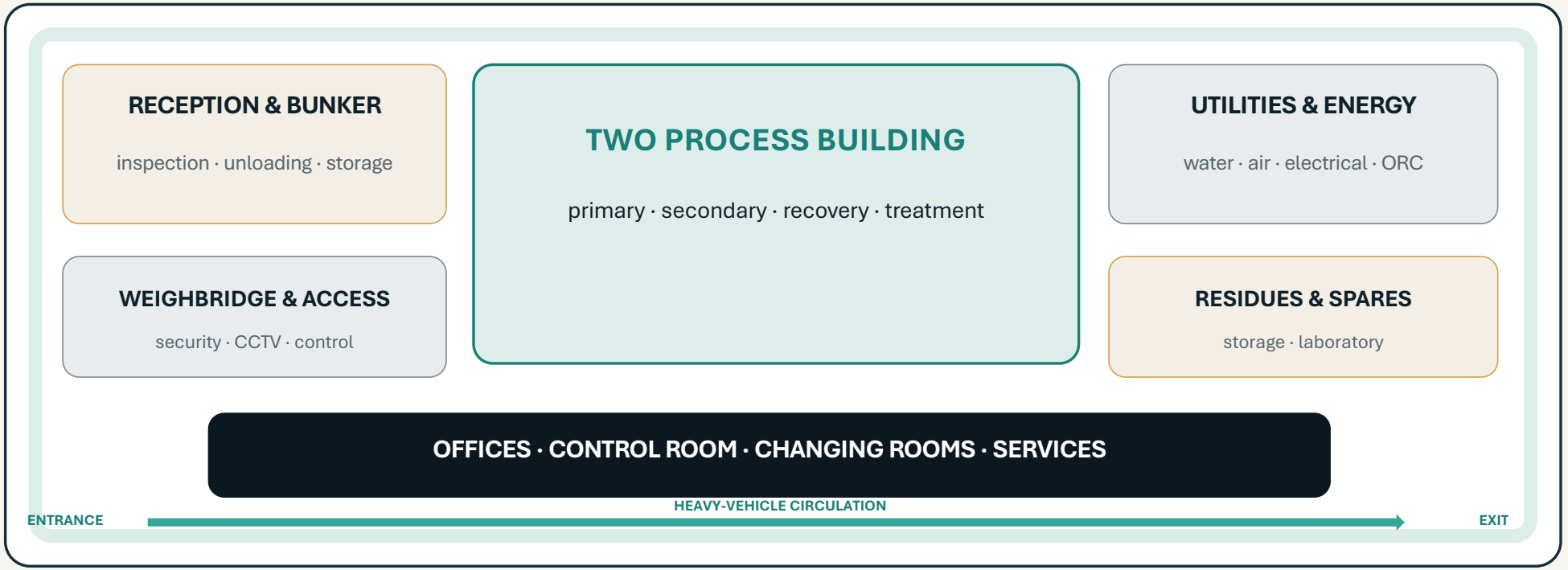
- enclosed reception and bunker
- compact, controlled envelope
- separated access and circulation routes
- visual and acoustic mitigation

Reference conceptual rendering; architecture, volumes and materials will be defined for the actual site.

SITE & LAYOUT

10,000 m² as the preliminary development basis

This functional layout organises the essential areas; dimensions and clearances will be confirmed through the general arrangement, surveys and local constraints.



FUNCTIONAL LAYOUT · NOT TO SCALE

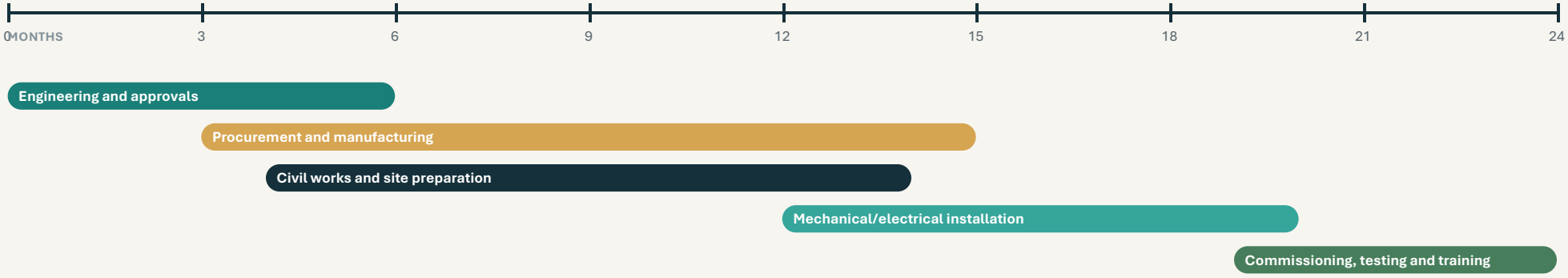
IMPLEMENTATION PROGRAMME

24 months from full site readiness

The programme starts from full site readiness (Site Readiness Date) and formal Notice to Proceed (NTP).

START CONDITIONS

- contract executed and initial payment received
- design basis and scope confirmed
- site accessible and formally handed over
- surveys, geotechnical data, permits and utilities available
- Notice to Proceed issued



OPERATIONAL READINESS

Handover includes people, procedures and capability

Technical and operational training accompanies commissioning, start-up and transition to routine operation.

01

Fundamentals

process, flows, safety and responsibilities

02

Operations

start-up, shutdown, HMI/SCADA, alarms and logs

03

Maintenance

inspections, routines, spare parts and fault management

04

Supervised operation

practical training during commissioning and supervised plant operation

DOCUMENTATION INCLUDED

Operating and maintenance manuals

Final programme

participants · duration · language · location

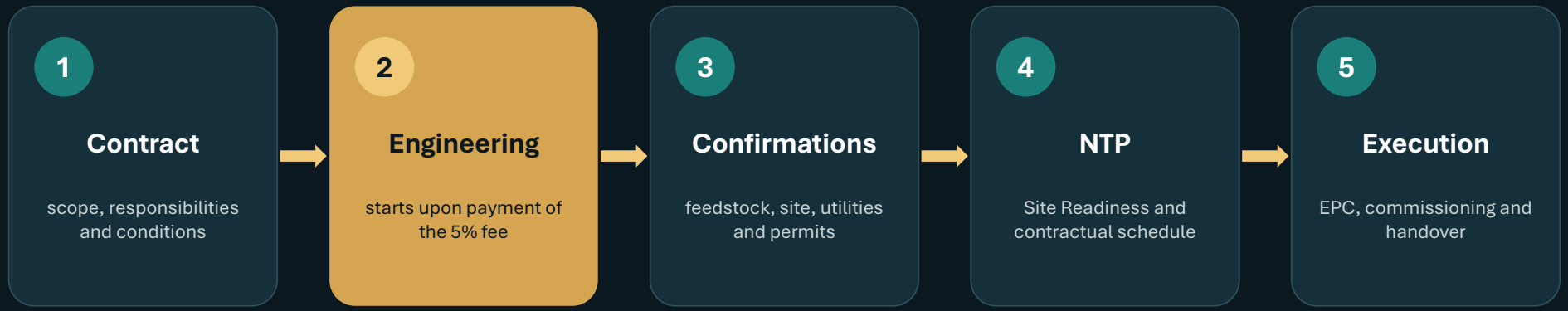
Handover

training before final acceptance

FROM PROPOSAL TO PROJECT

Five steps to make the investment executable

Engineering translates the preliminary basis into layouts, specifications, interfaces and permitting documents.



5% OF TOTAL VALUE · € 1.95 M

The engineering fee forms an integral part of the € 39 million and will be backed by an international insurance guarantee in accordance with the contractual terms.