Disposal plan : Business Development Opportunity

1. Object

The concept note is structured in three topics:

- Activities and target,
- Working capital requirements,
- Business pipeline and development.

2. Activities and targets related to Enertime's know-how and experience

For Very High Temperature Heat Pump (VHTHP) segment:

- Launch feasibility studies to secure demonstrators and projects of VHTHP systems generating steam, superheated water, hot air and hot oil.
- Develop a standardized Steam Generating Heat Pump system producing 2-5 MWth of steam with Enertime's oil-free motor-compressor technology.
- Secure and develop projects and partnerships with key process/equipment designers and manufacturers in targeted sectors of Industry (Paper Mills machines, Dryers, Fryers, Chemical process licensor, Mechanical Vapor Recompression, etc.).

The development of VHTHP is crucial to shortly enhance energy efficiency and carbon footprint reduction in Industry waste heat recovery fields. Enertime's technology, considered one of the most effective solutions for industrial process heat decarbonization, faces limited competition, particularly in the 2-5 MWth VHTHP segment, that can be covered to a large extent by standardized machines and in the 5-15 MWth segment, primarily from Turboden. With its pilot project in 2019 for Veolia and the current implementation of the European projects PUSH2HEAT and HURRICANE, Enertime demonstrates its capability to design and produce very high-temperature heat pumps systems.

For Organic Rankine Cycle (ORC) segment:

- To develop a standardized modular ORC system using Enertime's turbine technology, with a power range of 1 MWe to 10 MWe.
- To develop the projects available in Enertime's pipeline, as well as those identified by the potential purchaser or investor, targeting this range of temperature and power, with the goal of becoming a leader in providing standardized ORC solutions for heat recovery processes in industries such as cement, glass, and steel plants, and incineration processes.

Enertime also has privileged partnerships with agents, potential clients, and suppliers that can be leveraged to achieve these objectives.

A partnership with Enertime aims to target previously inaccessible markets, such as cement plant, glass plant, incineration process, paper industry, agrifood, chemical processes and construction material plants, to grow beyond their existing pipeline and improve market share. International ESCo models are crucial, and Enertime's expertise will help establish local partnerships in Asia Pacific, Western, and Eastern Europe, as seen with the Ensys project in Thailand with Bangkok Glass Energy and future identified projects with existing partner in India or in South Korea with its Organic Rankine Cycle (ORC) technology and Very High temperature Heat Pump (VHTHP).

Enertime's robust set of references and growing demand for waste-to-energy applications (like incinerators) could drive growth in ORC sales. With agents present all around the world, notably in Korea, Taiwan, India, South Africa, Uzbekistan, Poland, East Africa, Ukraine, Turkey, and China, Enertime has a strong international presence and is considered a leader in waste heat recovery associated with

incineration processes through ORC technology. The company has promising development prospects for this technology and related ones (VHTHP and turboexpanders).

Enertime's offers a robust technology to address a growing demand for waste-to-heat applications, such as Paper Mills, Agrifood, Chemical plants, Construction materials that will drive growth in VHTHP sales. Its specific expertise in the design of Steam Generating Heat Pump systems (SGHP) will further drive growth in sales.

In parallel and independently the new subsidiary can include other activities:

- Taking over the two ongoing projects from the Horizon Europe programme, PUSH2HEAT and HURRICANE, will build the first references of Enertime's Very High Temperature Heat Pumps generating steam and superheated water within an industrial operation.

- Taking over existing contracts and with the potential for repeat orders.
  -> Further information can be provided

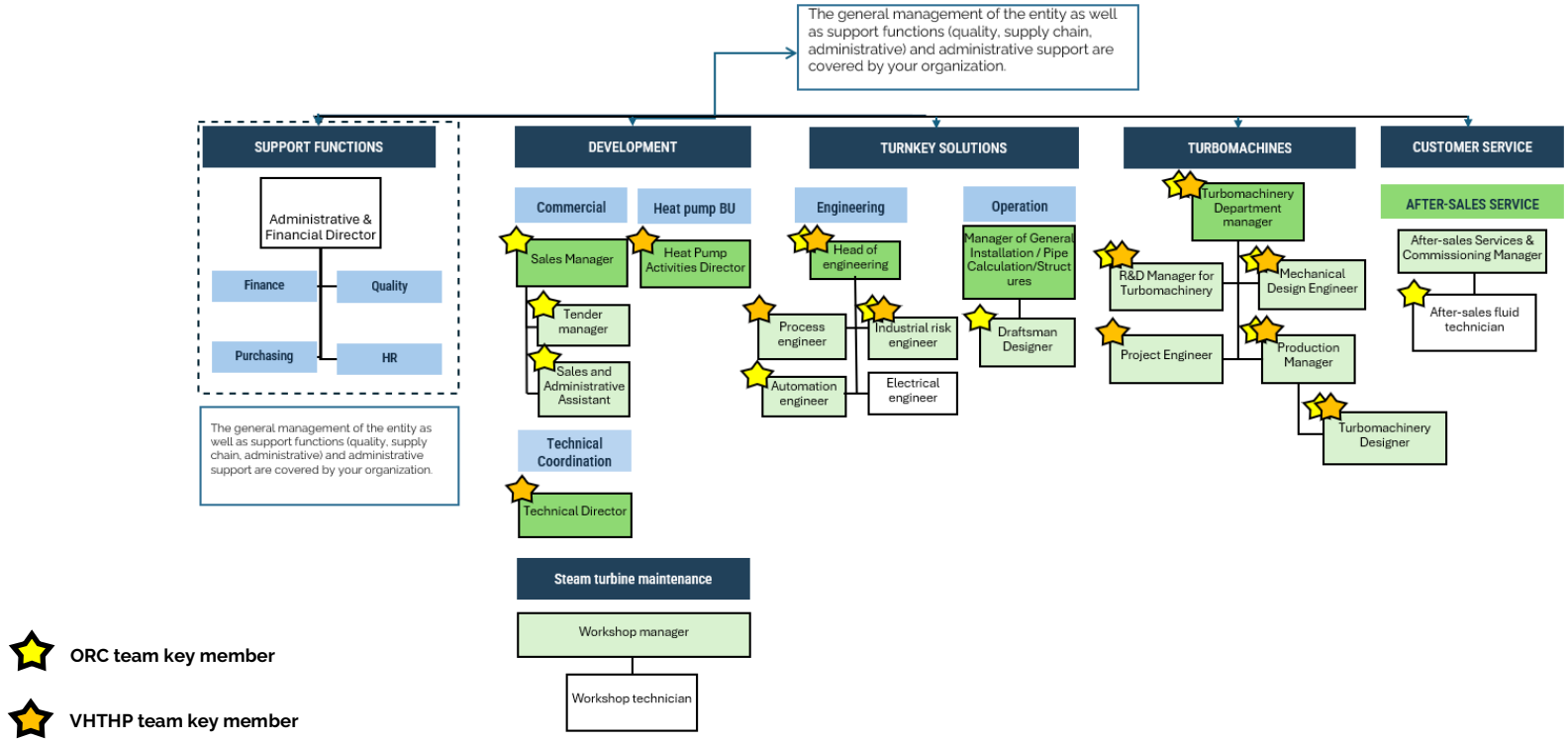
- Taking over the effective maintenance and remote assistance contracts for ORC, which is profitable and represents a potential turnover of €200-250k annually in the existing configuration.
  -> Further information can be provided

- The takeover of the steam turbine maintenance activities of its Vendée-based subsidiary. Enertime will enable it to manufacture bladed rotors in-house, leverage local expertise to reduce overall turbine design costs and develop steam turbine maintenance (300k€ as turnover for 2024)
  -> Further information can be provided

  CUSTOMER 20 (see Pipeline and business opportunity) contract for turbomachinery and engineering. Our existing client is developing the Carnot battery, a technology for large-scale electricity storage through thermal conversion, using a high-temperature, inline turbine-compressor group. This solution is competitive, offering superior cycle efficiencies, a reduced footprint, and no risk to human activity or the environment. Enertime, responsible for engineering, will also assemble the turbo-compressor group.
  -> Further information can be provided

- Providing Enertime personnel resources in the subsidiary will enhance engineering capabilities for your existing R&D projects, particularly in thermodynamics, heat transfer, mechanics, and aerodynamics.
  -> Further information can be provided

3. Proposed organization chart



The development teams will interface with your teams, particularly the Heat Pump Director and the Sales Manager, depending on the activities retained in the new scheme. These individuals will be the primary points of contact to ensure better integration and an optimized workflow. All teams will communicate directly with your teams, each time designating a responsible person to centralize the exchanges. The personnel from Enertime, marked with a star, are essential for the successful execution of requests and project qualification, as well as for the engineering of turbines and centrifugal compressors, supervision of assembly, and management of interfaces with other system elements using refrigerant and cyclopentane. This applies to systems ranging from 3 MWth to 15 MWth for VHTHP and from 500 kWe to 10 MWe for ORC. This structure will also enable the continued business development of Enertime's ORC modules, VHTHP systems, and the integration of Enertime solutions.

The complete organizational chart will generate all the necessary inputs for a successful execution of complete VHTHP and ORC projects, requiring your support for the EPC part. We will be able to size the centrifugal compressors and turbines, provide all the elements for assembly, size the VHTHP and ORC systems, perform detailed engineering of the various components, supervise the installation of the systems, and enable their commissioning and start-up.

4. Working capital requirements

Importance	Segment	Designation	Basic annual salary
	1 VHTHP	Heat Pump Activities Director	81 000 €
	1 VHTHP	Technical director	62 000 €
	1 ORC	Sales Manager	48 000 €
	1 ORC	Tender Manager	54 000 €
	1 ORC	Sales and Admnistrative assistant	36 000 €
	1 VHTHP & ORC	Head of enginerring	75 000 €
	1 ORC	Automation Engineer	45 600 €
	1 VHTHP & ORC	Industrial risk engineer	55 000 €
	1 VHTHP & ORC	Turbomachinery Department Manager	80 000 €
	1 VHTHP & ORC	R&D Manager for turbomachinery	68 000 €
	1 VHTHP & ORC	Mechanical Design Engineer	50 400 €
	1 VHTHP & ORC	Production Manager Turbomachinery	46 000 €
	1 VHTHP & ORC	Turbomachinery Designer	36 000 €
	1 ORC	After sales fluid technician	48 000 €
	1 ORC	Draftsman Designer	40 000 €
	1 VHTHP & ORC (optional)	Turbomachinery Project engineer	49 000 €
	1 VHTHP	Process engineer	50 000 €
	2 VHTHP & ORC	Manager of General installation	66 000 €
	2 ORC	After sales services manager, comissioning	60 000 €
	2 ORC	Electrical Engineer	MISSING
	2 ORC	Workshop manager (steam turbine maintenance)	45 600 €
	2 ORC	Workshop technician (steam turbine maintenance)	33 600 €
ORC + turboexpanders	**1**	**Total Annual Gross Salaries:**	**682 000 €**
		Estimated Cost for the Company (average of 42.5%)	289 850 €
		Total Amount to be Paid for Salaries (yearly):	**971 850 €**
		Total Amount to be Paid for Salaries (monthly):	**80 988 €**
VHTHP	**1**	**Total Annual Gross Salaries:**	**652 400 €**
		Estimated Cost for the Company (average of 42.5%)	277 270 €
		Total Amount to be Paid for Salaries:	**929 670 €**
		Total Amount to be Paid for Salaries (monthly):	**77 473 €**
For all activities	**1+2**	**Total Annual Gross Salaries:**	**1 129 200 €**
		Estimated Cost for the Company (average of 42.5%)	479 910 €
		Total Amount to be Paid for Salaries:	**1 609 110 €**
		Total Amount to be Paid for Salaries (monthly):	**134 093 €**

1: Mandatory for ORC or VHTHP (specified in column C of the corresponding proposed organization chart)
2: Mandatory for ORC & VHTHP, as well as turboexpanders, for complete projects and Sales developments

The 1+2 Enertime collaborators configuration addresses all the design needs for centrifugal compressors and VHTHP, as well as turbines and ORC modules, while designation 1 refers to the essential positions defined in section 3, marked by a star. This suggestion should be discussed between the managers of Enertime and your teams to ensure optimal synergies.

Enertime will need human resources, administrative support, quality control, procurement, and project management from your team or partners, particularly during the construction of centrifugal compressors, turbines, and VHTHP and ORC systems, as well as during commissioning.

Other annual expenditure:

Designation	Annual expense
Ansys CFX CFY	60 000 €
Ansys CFY	40 000 €
Teams license/sharepoint	36 000 €
Autocad	62 000 €
Aspen EDR	11 000 €
tchart EES	2 400 €
Travels for Maintenance	30 000 €
Computers	10 000 €
Workshop costs/co-working space	50 000 €
Travels (Sales, Conferences,...)	70 000 €
Miscelenous	100 000 €
Total Annual Gross Salaries:	**471 400 €**

5. Pipeline and business opportunity

Designation	Net capacity (MWe)	System configuration	Probability	Gross Marging	Price of sales	Year 1	year 2
Heat Pump feasibility studies : Phase 1 (Feasibility Evaluation)	**Heat Capacity (MWth)**						
Customer 1	5,4	WHR humid air + Thermal oil heat pump (180°C)	0,9	80%	€ 16 200	€ 14 580	€ 0
Customer 2	3	WHR humid air + Hot air heat pump (145°C)	0,9	80%	€ 30 000	€ 27 000	€ 0
Customer 3	2 x 7	Hydrocarbon condensation + Steam Generating Heat Pump + MVR (162°C)	0,8	80%	€ 30 000	€ 24 000	€ 0
Customer 4	4	Steam Generating Heat Pump + MVR (162°C)	0,7	80%	€ 22 400	€ 15 680	€ 0
Heat Pump feasibility studies : Phase 2 (Preliminary Design)							
Customer 1	5,4	WHR humid air + Thermal oil heat pump (180°C)	0,9	80%	€ 39 600	€ 35 640	€ 0
Customer 2	3	WHR humid air + Hot air heat pump (145°C)	0,9	80%	€ 66 000	€ 59 400	€ 0
Customer 3	2 x 7	Hydrocarbon condensation + Steam Generating Heat Pump + MVR (162°C)	0,7	80%	€ 66 000	€ 46 200	€ 0
Customer 4	4	Steam Generating Heat Pump + MVR (162°C)	0,6	80%	€ 48 800	€ 29 280	€ 0
Heat Pump feasibility studies : Phase 3							
Customer 1	5,4	WHR humid air + Thermal oil heat pump (180°C)	0,7	80%	€ 96 000	€ 67 200	€ 0
Customer 2	3	WHR humid air + Hot air heat pump (145°C)	0,7	80%	€ 156 000	€ 109 200	€ 0
Customer 3	2 x 7	Hydrocarbon condensation + Steam Generating Heat Pump + MVR (162°C)	0,5	80%	€ 156 000	€ 78 000	€ 0
Customer 4	4	Steam Generating Heat Pump + MVR (162°C)	0,4	80%	€ 124 000	€ 49 600	€ 0
Heat Pump opportunities from above							
Customer 1	5,4	WHR humid air + Thermal oil heat pump (180°C)	0,9	20%	€ 5 000 000	€ 0	€ 3 375 000
Customer 2	2,5	WHR humid air + Hot air heat pump (145°C)	0,9	20%	€ 2 300 000	€ 621 000	€ 1 345 500
Customer 3	5 + 7	Hydrocarbon condensation + Steam Generating Heat Pump + MVR (162°C)	0,7	20%	€ 8 000 000	€ 0	€ 1 890 000
Customer 4	4	Steam Generating Heat Pump + MVR (162°C)	0,7	20%	€ 4 600 000	€ 0	€ 2 415 000
ORC Qualified opportunities							
Customer 5	3.1	Complete ORC with installation	0,6	20%	€ 7 000 000	€ 2 718 000	€ 1 387 500
Customer 6	2.2	Complete ORC with installation	0,5	20%	€ 4 900 000	€ 735 000	€ 1 351 000
Customer 7	3	Turbine Only + process engineering for ORC	0,4	20%	€ 1 900 000	€ 340 000	€ 344 000
Customer 8	0,7	Complete ORC with installation	0,6	20%	€ 3 650 000	€ 1 642 500	€ 547 500
Customer 9	1	Turbine Only + process engineering for ORC	0,7	20%	€ 1 500 000	€ 787 500	€ 162 750
Others ORC opportunities							
Customer 10	1	Complete ORC with installation	0,1	20%	€ 3 800 000	€ 114 000	€ 247 000
Customer 11	2	Complete ORC without installation and without piping	0,4	20%	€ 4 950 000	€ 594 000	€ 1 386 000
Customer 12	5	Complete ORC with installation	0,4	20%	€ 5 000 000	€ 0	€ 1 500 000
Customer 13	5	Complete ORC with installation	0,2	30%	€ 9 000 000	€ 0	€ 1 350 000
Customer 14	3	Turbine Only + process engineering for ORC	0,3	20%	€ 1 500 000	€ 225 000	€ 225 000
Maintenance Activities							
Customer 15	2.5	Turboexpanders - complete maintenance	0,8	40%	100k€/yr	€ 80 000	€ 80 000
Customer 16	1.2	Complete ORC - complete maintenance	0,8	40%	40k€/yr	€ 32 000	€ 32 000
Customer 17	0.7	Complete ORC - complete maintenance	0,5	40%	50k€/yr	€ 25 000	€ 25 000
Customer 18	2	Complete ORC - remote assistance	0,8	40%	12k€/yr	€ 9 600	€ 9 600
Customer 19	tbd	Projected Steam turbine maintenance turnover	0,6	50%	€ 200 000	€ 200 000	€ 800 000
R&D Activities							
Customer 20		Turbo-compressor	0,8	20%	€ 2 000 000	€ 120 000	€ 1 440 000
			Total:		**€ 66 151 000**	**8 799 380 €**	**19 912 850 €**

According to the summary and estimation table, we anticipate generating a revenue of approximately €8.8 million in the first year, which includes staff costs and other expenses. The profit is expected to be around €1.5 million, covering all your support in terms of quality, project management, and other expenses. All these elements need to be discussed on a case-by-case basis with potential clients.