

GEARS BUSINESS

**IN 2018 WÄRTSILÄ AND
WINERGY (FLENDER)
ENTERED IN A
PARTNERSHIP SERVICE
AGREEMENT**

**WINERGY GEARBOXES'
AFTER SALES IS NOW A
WÄRTSILÄ'S BUSINESS**

**IN 2022, A NEW WORKSHOP
DEDICATED TO WIND
GEARBOX REPAIR IS
INNAUGURATED IN
RECIFE AREA – PE**

**WORKSHOP IS
EQUIPPED WITH THE
FIRST ON LOAD
TEST BENCH IN
BRAZIL**

**WARTSILA'S
WORKSHOP AND
TECHNICIANS ARE
OFFICIALLY
HOMOLOGATED BY
WINERGY**

GEARS WORKSHOP

CABO DE SANTO AGOSTINHO - PE

WORKSHOP DEDICATED TO WIND GEARBOX REPAIR

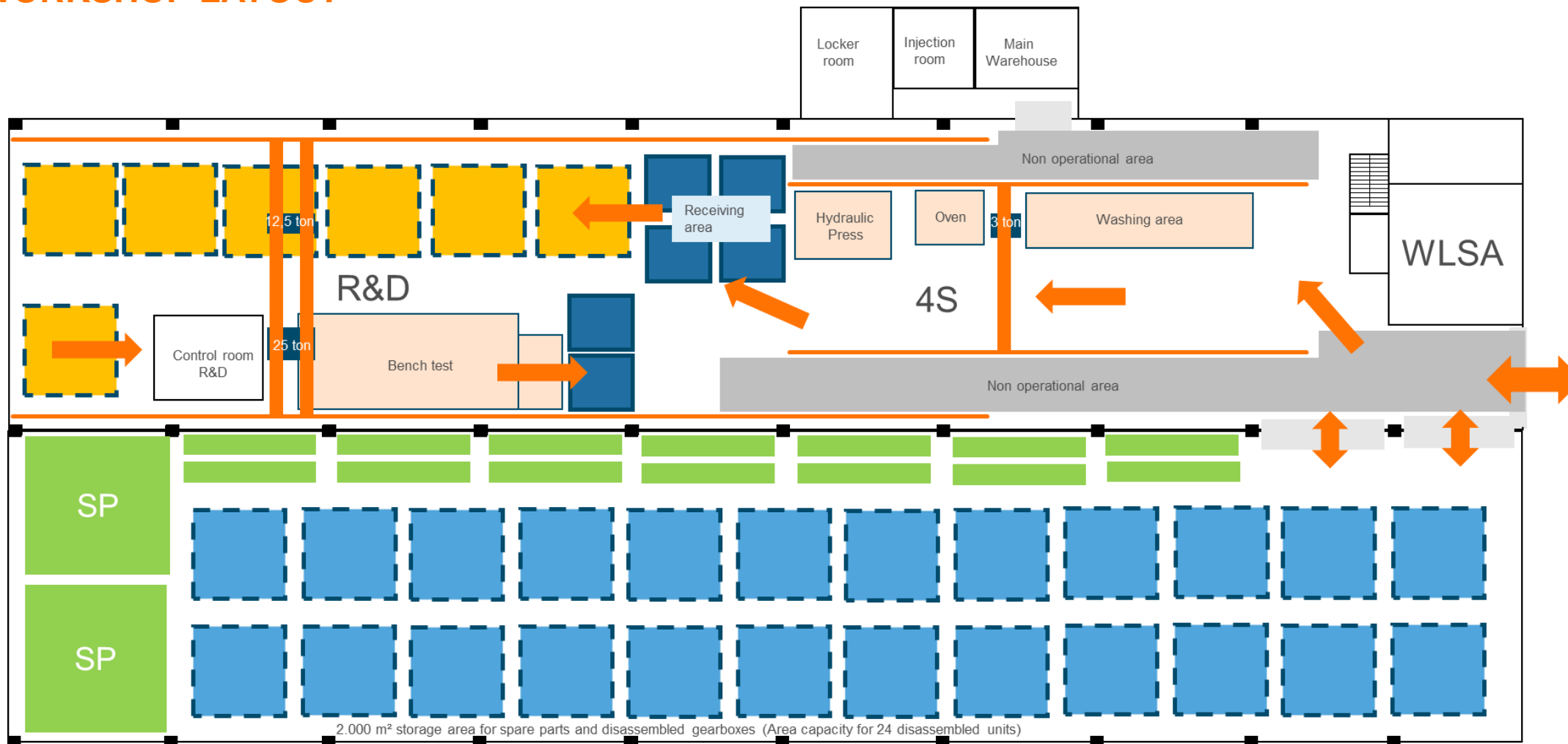
- Homologated by Winergy and ISO 9001 / ISO14001 / ISO 45001
- Total Dimension: 5.172 m²
 - 2.700m² operational area
 - 2.472 m² for disassembled gearbox storage and safety stock.



OVERHEAD CRANE OF 25 TON



WORKSHOP LAYOUT



SCOPE OF SUPPLY

- Multibrand gearbox repair (Winergy, Moventas, Hansen, GBG)
- Supply of spare components for wind turbines (Gearbox, Generator, Main shaft, coupling)
- Supply of spare parts for gearboxes
- Uptower services and inspections

FIRST ON LOAD TEST BENCH IN BRAZIL

- Load Test Bench of 1.5 MW
- Gearbox refurbishment up to 3.X MW class
- Can test several types of Wind Gearboxes



WINERGY PORTFOLIO

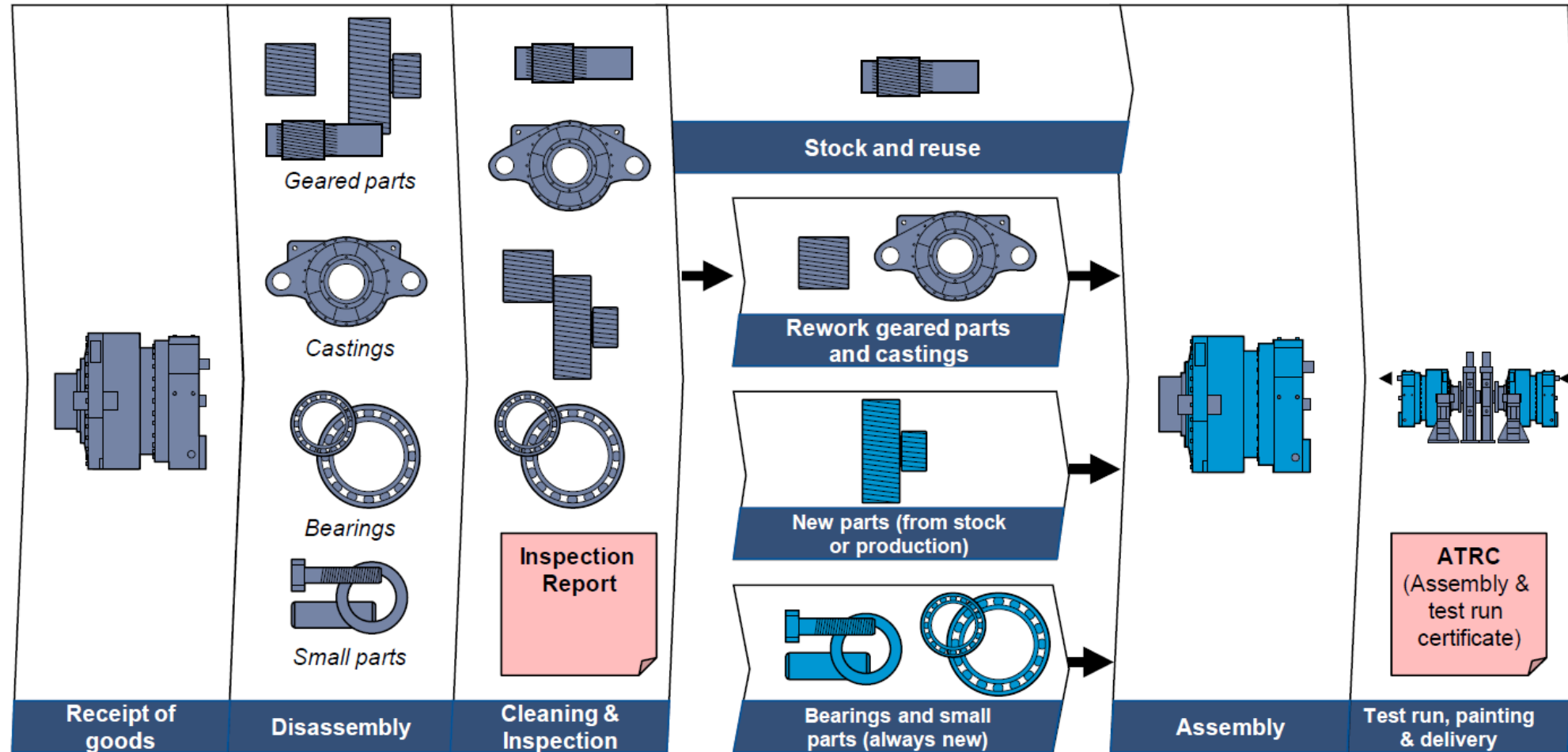
OEM	Turbine type	Gearbox model
Vestas	V82	PEAB 4420
	V90 / 100	PEAB 4435
	V110	PEAB 4440
	V150	PZAB 3580
Acciona	AW 3000	PZAB 3535
Alstom (GE)	ECO 80 / 86	PEAB 4418
	ECO 100 / 110	PZFB 3495.2
GE	2.X	PZAB 3505
	1.x	PEAB 4431
Siemens	SWT 2.3	PEAB 4456 / PEAB 4458
Suzlon	S88/S9X	PEAB 4456 / PEAB 4459

MOVENTAS MULTI-BRAND

WTG OEM	TURBINE TYPE	GBX OEM	GBX TYPE
NORDEX-ACCIONA	AW1500	MOVENTAS	PLH-1100
	AW3000		PPLH-2900
VESTAS/GAMESA	V80/V90/V100		PLH-1400
	G8X/G90		
	V4X/G47		PLH-3XX
	V52/G52		PLH-400
GE	GE 1.5		PLH-1100
	GE-158		PPH-5700
SENVION	MM82		PLH-1700
	MM92		PLH-1900
	4.0M131/3.6M140		PPLH-4100

WTG OEM	TURBINE TYPE	GBX OEM	GBX TYPE
VESTAS	V80/V90/V100/V110	ZF	GPV 442
GAMESA	G8X/G9X		EH 802 + 804
VESTAS	V47		EH 551 + 552
VESTAS	V52		EH 553
GE	2.5		GPV 500
VESTAS	V80/V90/V100/V110	WINERGY	PEAB 4435
SIEMENS	SWT 2.3		PEAB 4456
SUZLON	S88/S9X		PEAB 4456
SIEMENS	SWT 3.6		PZAB 3541
SENVION	MM82/MM92	EICKHOFF	CPNHZ 224
NORDEX-ACCIONA	N80/N90		CPNHZ 244

COMPLETE GEARBOX REPAIR PROCESS





WÄRTSILÄ