



# Agenda

#### > > Operations

Danny Di Perna, Executive Vice President and Chief Operating Officer

#### Rolling Stock and Components

Benjamin Fitoussi, President, Rolling Stock and Components

#### > > Services

Matthew Byrne, President, Services

#### Signalling and Systems

Jean-François Beaudoin, President, Digital and Integrated Systems

#### **Questions & Answers**



# **Operations**

Danny Di Perna

Executive Vice President and Chief Operating Officer

# Alstom is up and running and winning in the marketplace Building customer confidence through process excellence





Critical Project Risk Index



Quality Execution to Customer improved by 67%





One Alstom Process
Deployment at 83%

Product Convergence: 100%

**Parts: 25%** 





- O Digital Tools
  Consolidation at 78%
- APSYS¹ Score: +74% site weighted average



- € 40bn Orders 24 months
- € 87bn Backlog

**ALST** 

<sup>&</sup>lt;sup>1</sup>APSYS: Alstom Performance SYStem, Alstom's continuous improvement programme

# Business process integration and digitalisation Investments "on-track" and delivering results

#### **Alstom's Digital Tools Suite**

Objective: Enable our global teams to develop, engineer, manufacture and support the business from anywhere across the globe.

#### 4 Key Axes:

#### Current

97% converged processes

91% of converged processes deployed in sites

78% of digital tools consolidated

#### **2025 Targets**

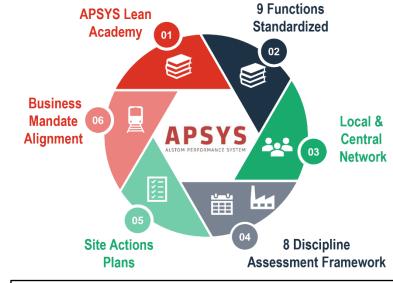
100% converged processes

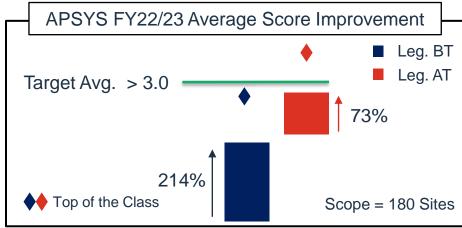
>90% of digitalization in our fleet maintenance process

95% of digital tools consolidated



# APSYS, our Alstom continuous improvement program Driving process excellence and performance through rigour and discipline across all activities





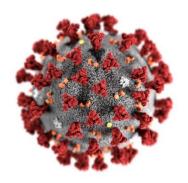








# Enterprise risk management process active Mitigation actions deployed to face our challenging times









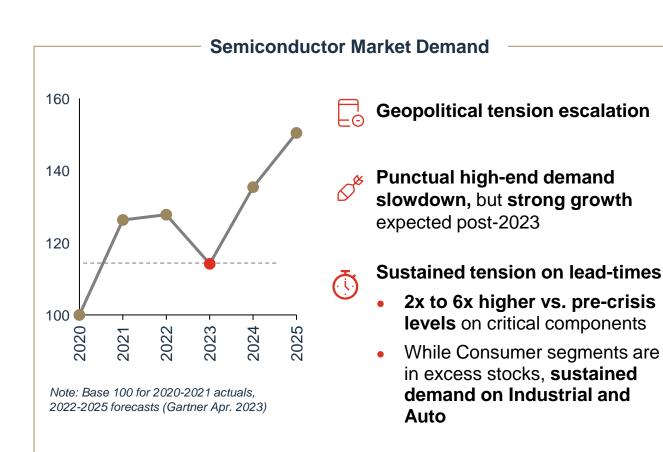




- Covid lockdown risks overcome with temporary inventory increase and flexible transportation routes
- Long term semiconductor needs secured with partnerships, alternate sources and redesigns
- Site Delivery
   Centers focused
   on mitigating
   scarce material
   allocations
- Inflation
  challenges
  mitigated by
  securing supplier
  and customer's
  contracts and
  stringent cost
  measures
- Energy supply and cost secured through supplier agreements and company wide energy saving plan
- Geopolitical risks mitigation plan for strict monitoring and development alternative sources of energy in all sensitive areas

# Electronic component crisis management Dedicated global and multi-disciplinary team driving supply chain execution

Tensions on the semiconductor market...



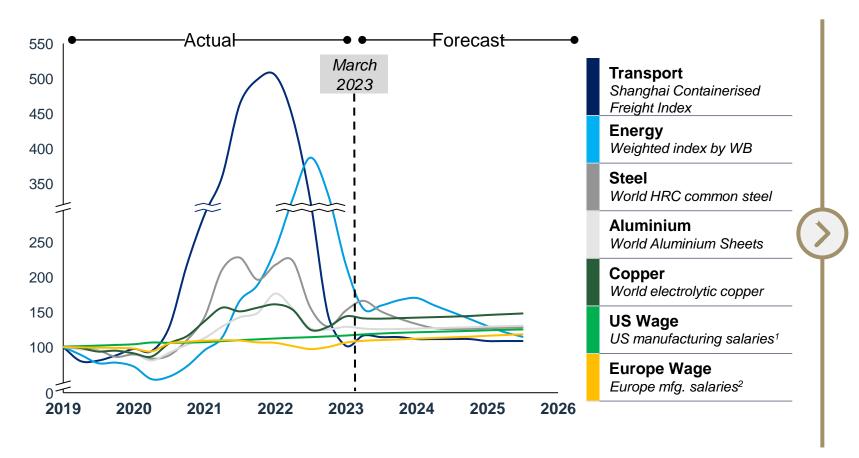
# ... addressed by a complete set of reactive and proactive mitigation measures

| l                  | Allocation process enabling 6 months rolling visibility and monitoring                          |
|--------------------|---|
| Reactive measures  | Component chasing with a components marketplace   |
|                    | Engineering redesign and alternatives completed for 650 parts                                   |
|                    | Visibility with suppliers: 80% backlog replanning with Tier 1 and forecast agreements initiated |
|                    | Preferred part list being defined for 15 product families                                       |
| Proactive measures | Intimacy with manufacturers / preferred relationships   |
|                    | Legal support and client management   |
|                    | Semiconductors market trends monitoring   |

# Inflation impact on material and wages Largely mitigated by stringent cost measures and contract management

#### **Evolution of relevant cost items indexes**

Indexed, Quarterly evolution from 2019-2025, Base 100 as of 01/01/2019



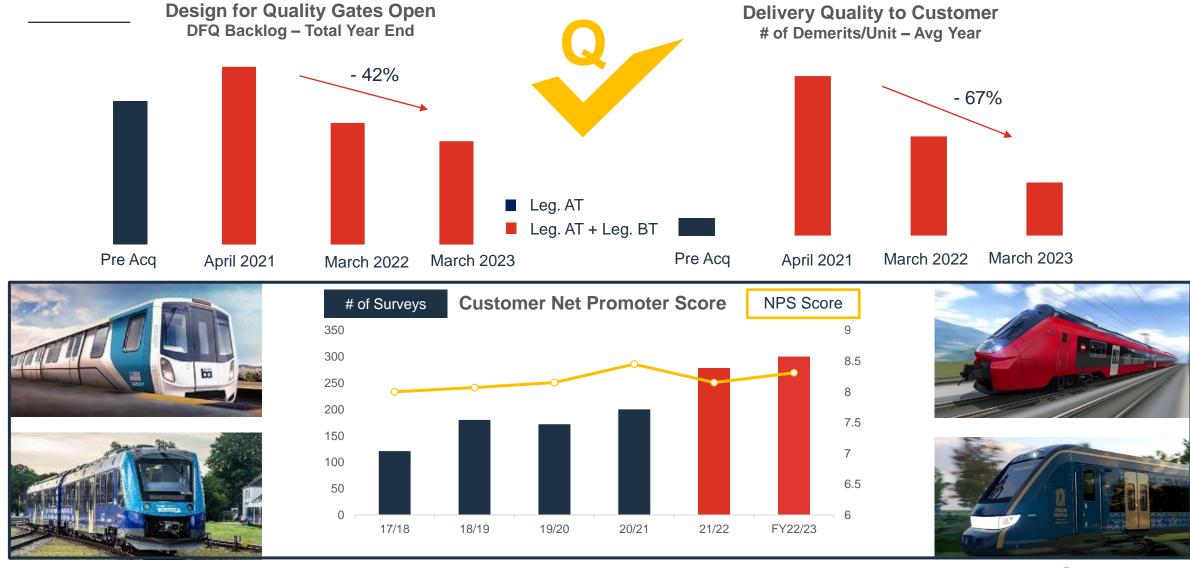
#### Multi-disciplinary action plan

- 1 Price adjustment on new tenders mirroring cost increase
- Commercial contract pricing adjustment formulas
- Reinforced selectivity for fix and firm price contracts
- 4 Back-to-back with suppliers for fix and firm contracts
- 5 Long term planning and securing material supplies
- Application of **stringent cost measures** to mitigate headwinds

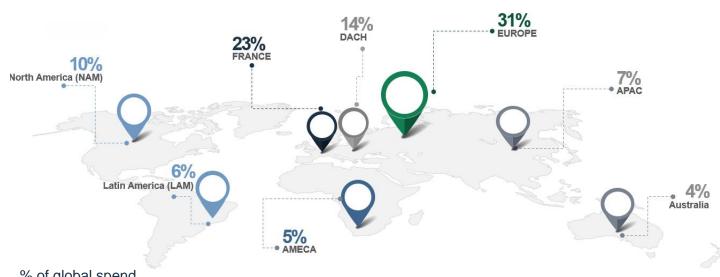
<sup>1.</sup> Forecasted data based on inflation rate in the US | 2. Eurostat labour cost index published quarterly | 3. US Producer Price Index by Industry: Semiconductors and Related Device Manufacturing Source: World Bank, Eikon Datastream, HSBC, Federal Reserve Economic Data, Oxford Economics, Oliver Wyman analysis



## Quality excellence drives customer confidence and satisfaction



### Alstom's global supply chain – a competitive advantage Leveraging our proximity to customers for localization and best cost capabilities



% of global spend



Improve supply chain **Performance** to deliver projects and reinforce **Risk Management culture** 



Strengthen Alliance Partnership Program for a better supplier relationship management



Encourage Regional to Regional proximity and enable localization



Deploy decarbonization plan for Scope 3, Purchased Goods and Services: -30% in 2030.

#### **Global Spend**

#### ~14€ Bn

12 months rolling

6% of Supply Base (1200 suppliers) represents 80% of Global Spend (11.7 Bn€)

#### **Supply Chain**

#### 22K Suppliers

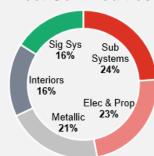
Direct and Indirect Scope

Panel reduction : -10%



■ Total L1 & L2 ■L1 & L2 > 3M

#### **Direct Commodities**



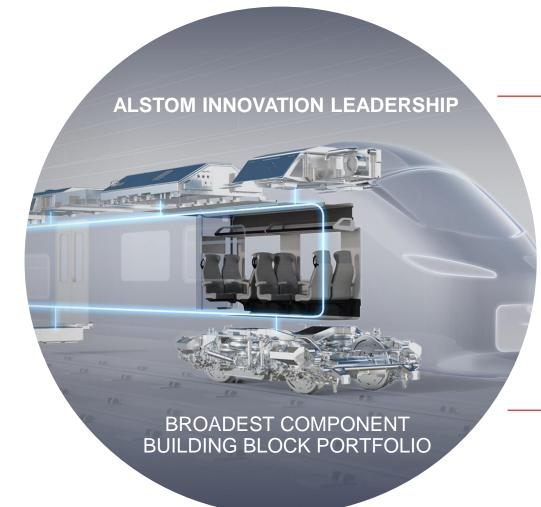
Strengthen supplier development (capacity and capability)

# **Critical Suppliers**

Performance of most impactful improved by ~30% in a year

# Investing in cutting-edge technology Our completed convergence unleashes innovation for success

R&D gross effort step-up above €700m<sup>1</sup>





"Lead societies to a low carbon future"



**GREEN TRACTION** 

**HYDROGEN** 



"Make mobility simple to operate and ride"



PREDICTIVE MAINTENANCE



ON-BOARD ELECTRONIC PRODUCTS



"Create mobility solutions that all people can enjoy riding"



CLEAN SURFACES



DESIGN FOR ALL

<sup>1</sup> From FY23/24 onwards CLE



# Customer-centric value propositions

Focused on bringing technology, products and services quickly for our customers



# Customer profitability

Increased revenue and lower costs

- Low CAPEX and Optimized OPEX
- Full electrical train with maximum energy savings
- High reliability and availability
- Lifecycle management



# Customer needs

Proven offerings and expertise

- Optimized products
- Local content
- Cutting-edge technology
- Full range of maintenance
- Overhaul expertise
- Digital solutions



# Sustainability solutions

Efficient, green and eco-design

- Environmental footprint
- Energy efficiency
- Low weight
- Low noise
- Eco-design
- Recyclability



Passenger experience

Increased comfort level



# Connected train

Interoperable with ground systems

- Less noise
- Inclusion and easy access for everyone
- Enhanced ride comfort
- Passenger-friendly design, lighting, integrated information

- Train communication network
- Onboard Information Systems framework: remote maintenance, telecommunication, cybersecurity
- Information tailored to passenger needs



# Alstom... up & running and on-track!





# **Rolling Stock** and Components

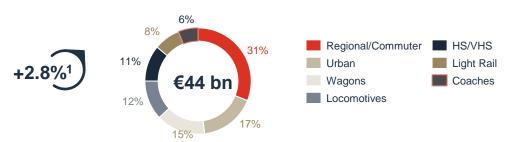
Benjamin Fitoussi

President, Rolling Stock and Components

### Alstom is the market leader in Rolling Stock & Components

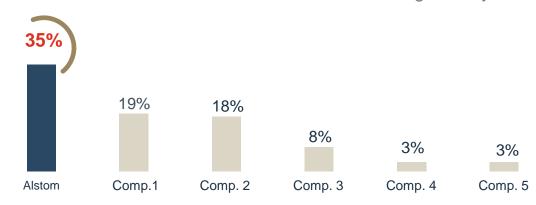
#### RSC IS A LARGE AND STEADY MARKET

UNIFE accessible market 2022-2024 (WRMS 2022) – Average in € Bn / year



#### ALSTOM: A CLEAR RSC MARKET LEADER

RSC Market shares 2020/21-2022/23, in % including turnkey share



#### MARKET DRIVERS:

**France Rail Plan** 

India budget for rail 23/24

US acceleration with Jobs & Infra Act

**Europe Diesel replacement** 

#### **RECENT WINS**



AUSTRALIA

100 Flexity™ low-floor Next generation Trams

€700 MILLION



312 Metro cars for Delhi Metro Phase IV €310 MILLION



FRANCE
60 RER NG Commuter trains
€1 BILLION



SPAIN
49 Coradia Stream™ HC trains
for RENFE
€370 MILLION



FRANCE
15 Avelia Horizon trains for SNCF
€590 MILLION



KAZAKHSTAN 100 KZ8A (NG) Locomotives, services & signalling

**INDIA** 

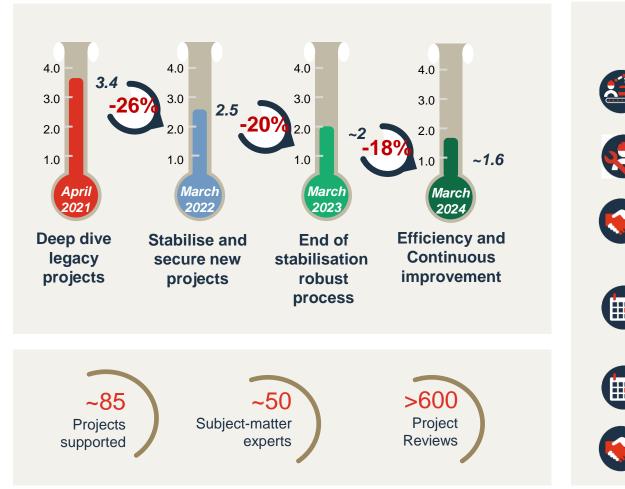


<sup>1.</sup> CAGR of 2.8 % based on UNIFE accessible rolling stock market 2019-2021 to 2025-2027 period

# ALSTOM: a unique global-local presence and capability Enables customer proximity & localization while leveraging global best cost sources



# Project stabilisation | Task Forces shifting from legacy to early phase projects





# TRAIN

# COMPONENT

# Convergence done at Train, Sub-system and Part levels

Focusing today on implementation in tenders

From Day 1

FY 2021/22

FY 2022/23

FY 2023/24

INVENTORY

**CONVERGE** 

**RATIONALISE** 

**FURTHER STANDARDIZE** 

8 platforms, 9 products phased out

#### **Light Rail**



Citadis™



Regional



Coradia™



#### **Urban**



Innovia™ APM Innovia™ monorai



Metropolis™



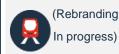
Integrate commercial teams in adherence governance

Early **Spec-in** 

Standardisation coefficient - KPI

**Drive standardisation** in tender phase / maximise leverage of standard solutions

#### Commuter





#### Locomotive



Traxx™



#### **High-speed**



Avelia™



#### Common standardised catalogue: 36 BUY module, 68 make components



35 active products 20 reference solutions



43 active products 20 reference solutions



Migrate to AGATE4

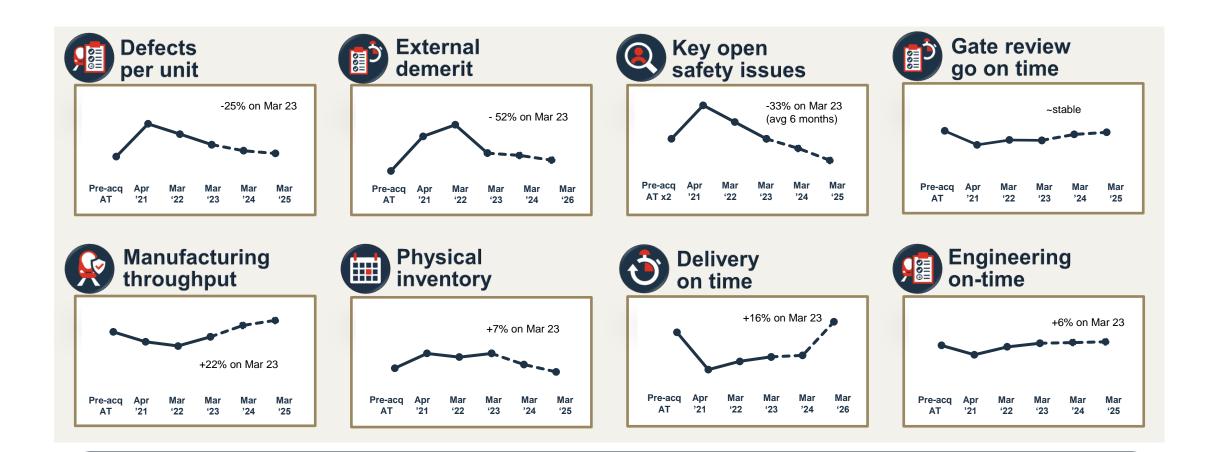


Bogies references





## Operational performance | Quality on target, focusing on delivery



### Supply chain & electronic components challenges mitigated

## Our achievements 2022-23 | regaining performance and preparing further ramp-up

**Won 57 Projects** securing €10.3 bn orders







Progressed product development & rationalization





9 products phased-out # Components -40%

**Deliveries back to** nominal customer satisfaction



Defects / Unit -25% External demerits -52% **Key Open issues -33% Customer Satisfaction 8.3** 



Invested in additional capacity and capability









**Mitigated** operational & financial headwinds







# 23/24 and beyond | accelerate the transformation journey to deliver the committed synergies

1

Win profitable tenders with innovative & standard products



- Platform positions as strong market leaders
- Leverage largest geographical coverage
- Leading the way on decarbonisation with 1st battery train in commercial service

2

Get the **best of our footprint** and scale



- Massification & specialisation in development & manufacturing
- BCC engineering up to 42% by 2025
- BCC manufacturing up to 60% by 2025
- Compact HCC

3

Bring our operations to required level of performance



- Project Management by Sub-System
- Strictly Apply Design for Quality Process (DFQ)
- Change & Configuration Management
- Engineering efficiency & automation
- Supplier & Supply Chain capacity development

4

Best in class processes with increased digitalisation



- GSI roll out in 40+ sites
- Advanced Operation Systems (AOS)
- Supply Chain & Procurement (Ariba)
- Industrial Planning (Kinaxis)
- PLM4A

5

Leverage our **people** skills and capabilities



- Site End-End capabilities
- Recruitment
- · Training & Development
- 1000+ expert network
- Leverage World Class Special Process Standards



# Significant investment in R&D to bring best solutions to our customers

#### **ENERGY EFFICIENCY**



#### **PASSENGER EXPERIENCE**



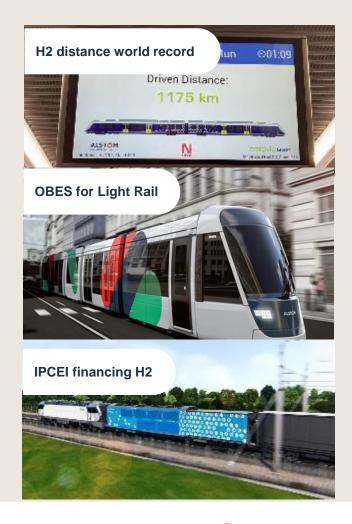
#### **CYBERSECURITY**



#### **CORE PRODUCT RANGE COVERAGE**



#### **GREEN TRACTION**



# IPCEI H2 financing strengthens Alstom leadership on Green Traction technologies

### • 350 M€ subsidies covering 4 projects









- Boost H2 solutions development
- About 5 years projects
- Comprehensive program financing including prototypes and pre-series

## RSC turnaround with production ramp-up supporting growth above market

#### RSC BUSINESS PROFILE

#### FY 2022/23:

- Backlog 42.8bn€
- Orders 10.3bn€
- Sales 8.8bn€

#### Typical mid to large contracts:

- From >100m to multi-billion€
- 3 to >5 years

#### Cash:

- 5 to 10% downpayments
- Negative working capital contribution

RSC product line as key enabler to Services and Systems businesses

#### PROFITABILITY IMPROVEMENT LEVERS

BUSINESS DEVELOPMENT LEVERS

**Selectivity** 

Increased % of projects indexed

**Product convergence** 

Platforming & Standardisation



Cost premiums

**HEADWINDS** 

MONITORING



Build a robust and capable railway supply base



Continuous mitigation

OPERATIONAL LEVERS **Operational excellence** 

**Digitalisation** 

Footprint utilisation and BCC lever

Synergies from process standardisation

Acquisition value capture

**Project stabilization** 

Progressive margin uplift to high single digit profitability

## Rolling Stock and Components Product Line: key take-aways

Uniquely positioned to capture market growth thanks to product, market reach and scale

Significant improvement in **project**stabilization
Quality on target

Operating as ONE team
Operating model implemented
Synergies on track

Accelerate the effort of transformation Best in class processes with increased digitalization

Win profitable tenders by innovative & standard products

Clear plan to deliver the targeted operational recovery

Focus on production ramp up and front log development projects





# **Services**

Matthew Byrne

President, Services

# Most extensive rail services portfolio, expertise and footprint

#### ALL ENCOMPASSING PORTFOLIO



#### CLEAR LEADERSHIP OVER THE RAIL SERVICES MARKET



<sup>\*</sup>Accessible Market UNIFE 2025-2027

### Strategy on track with market drivers and customer needs

#### MARKET DRIVERS



Increasing Operator focus on efficiency and performance



Market liberalisation



Green mobility



Train complexity and digitalisation

#### **CUSTOMER NEEDS**



Partner with local footprint



Cybersecurity and obsolescence



Total Cost of Ownership



Safety and security



System capacity and ridership



Passenger experience

#### STRATEGIC ORIENTATION

- 1. Develop **maintenance business** and leverage **installed base**
- 2. Increase globalisation of parts & component repairs & overhauls
- 3. Grow operations outside of North Americas
- 4. Reinforce our position on smart & green modernisation



### Service franchise has exceeded its mid-single digit growth guidance

#### FAST GROWING ORDER INTAKE SINCE MERGER



#### ACCELERATING BOOK TO BILL



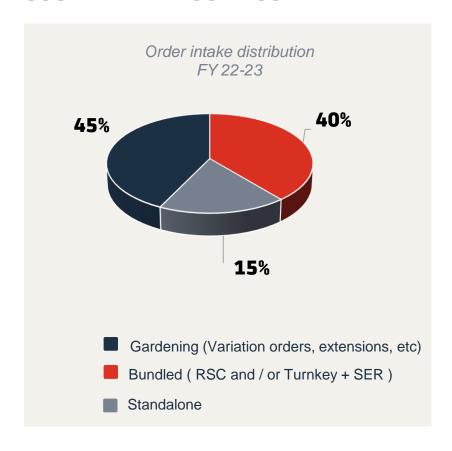
#### **OUTPACING MARKET GROWTH**



\* UNIFE Accessible Market CAGR 2019-2021 to 2025-2027

# Business model and evolution (bundle contracts, installed based advantage, small contracts)

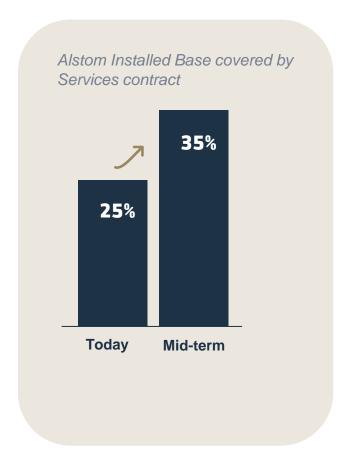
#### SUSTAINABLE BUSINESS WITH WELL BALANCED ORDER INTAKE





#### Mid-term ambition: 35% of installed base under services contract

#### 150,000 CARS INSTALLED BASE WITH VAST HARVESTING POTENTIAL



# DEVELOPMENT LEVERS

Green and Smart modernisation

**Digital Solutions** 

Obsolescence Management incl. software / Cybersecurity

Parts Supply / Component Overhauls

**TSSSA** 

# TSSSA to open new customers relationship (Singapore – Austria – US – France)

#### Customer key points

- Technology access
- End of warranty
- Fleet availability
- Mid-life overhaul required
- Social paradigm

#### Customer benefits

- Performance & Budget guaranty
- Obsolescence managed
- Life extension
- Modern / Digital approach

<sup>\*</sup>TSSSA: Technical Support and Spare Supply Agreement

### Demonstrated performance boosting commercial success

#### **OPERATIONAL EXCELLENCE**



MTR Elizabeth Line 32 years Full Maintenance 70 Aventra<sup>TM</sup>

BEST IN CLASS RELIABILITY

#### **OPTIMISED CUSTOMER COST OF OWNERSHIP**



Baden-Württemberg 30 years Full Maintenance 130 Coradia Stream™HC

**ENERGY CONSUMPTION COMMITMENT** 

#### **CUSTOMER INTIMACY**



Maryland Transit Administration MARC 15 years Operation and maintenance - Mixed fleet

LONG STANDING COLLABORATION

# Service franchise with strong predictability and high-single digit growth

# SERVICES BUSINESS PROFILE

#### PROFITABILITY IMPROVEMENT LEVERS

#### FY2022/23:

- Backlog 30.7bn€
- Orders 6.4bn€
- Sales 3.8bn€

#### Contracts:

- Long contracts up to 30 years
- Indexation as general rule
- Short-cycle business (parts)

#### Cash:

- Limited mobilisation payments (depots, capital spares)
- Positive working capital



# HEADWINDS MONITORING



To support growth



Localisation, resources availability and on-time performance

#### **ACHIEVED MID-TEENS PROFITABILITY WITH LARGE GROWTH POTENTIAL**





# Signalling and Systems

Jean-François BEAUDOIN

President, Digital & Integrated Systems

# Solid signalling market growth with accelerating modal shift as key market driver

**~15** bn€¹

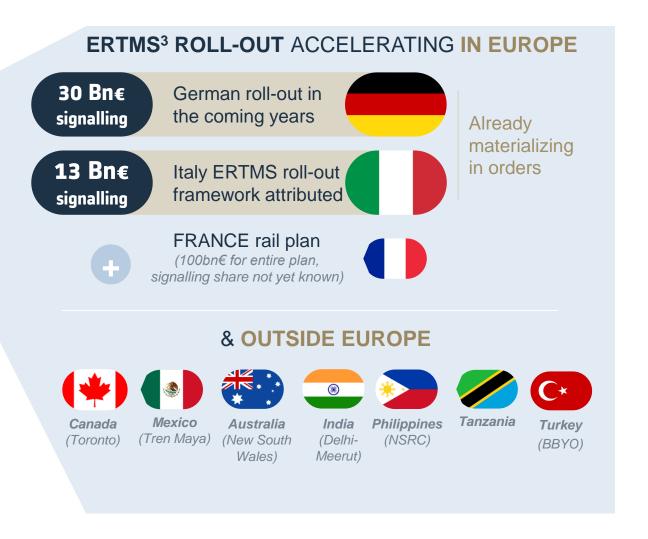
STRONG SIGNALLING MARKET GROWTH

+~**4%**CAGR<sup>2</sup>

Market boosted by infrastructure plans & ERTMS<sup>3</sup> roll-out acceleration

- → Signalling key to increasing capacity on existing lines
- → Enabling modal-shift acceleration towards rail



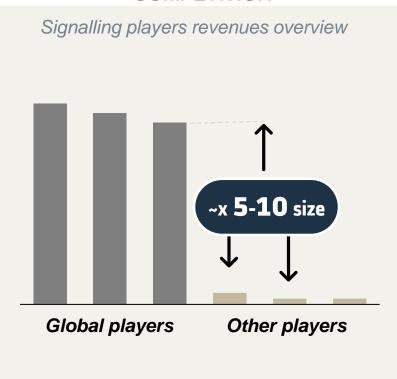


## Signalling, a market segment under consolidation around 3 global players

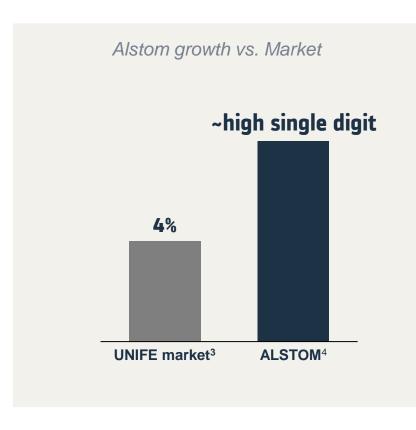
#### **KEY GLOBAL PLAYERS** CONSOLIDATING...

# of global signalling players<sup>1</sup> 8 players 3 players<sup>2</sup> 2010 2023

#### ... FAR AHEAD OF REST OF COMPETITION<sup>2</sup>



#### ... OUTPACING MARKET GROWTH



<sup>1-</sup> Global layers considered >500m€ revenues present in Alstom addressable market 2- Thales/Hitachi Merger expected in 2023 3- Alstom addressable market excl. Japan and China, CAGR 2019-2021 to 2025-2027 4- FY22/23 vs. FY21/22

## Alstom positioned as the most global signalling partner

#### MOST COMPLETE SIGNALLING PLAYER



#### LARGEST PORTFOLIO

& installed base (strong services growth potential)

#### **EXTENSIVE FOOTPRINT**

(customer intimacy & efficiency)

#### RECOGNIZED CAPACITY TO INNOVATE

(cyber, digitalization, new operating modes)

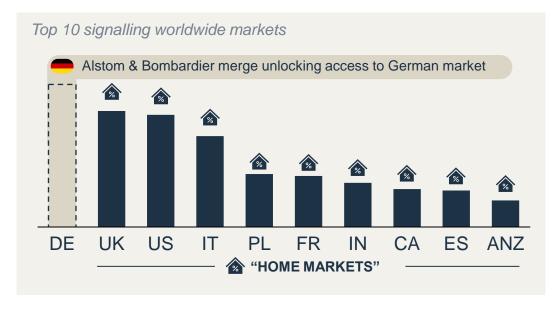
**ENGINEERS** 

#### PROVEN TRACK-RECORD

with latest innovations

(India on hybrid level 3 ERTMS, new vital technical platform in commercial operation in China)

#### POSITIONED ON ALL KEY SIGNALLING MARKETS



#### HIGH CUSTOMER CONFIDENCE

**HIGH CUSTOMER SATISFACTION** 

FY22-23

Harvesting installed base with small orders

Metro lines equipped with Alstom signalling



# Germany mainline signalling, a "Home Market" in the making

#### SUSTAIN LEADERSHIP

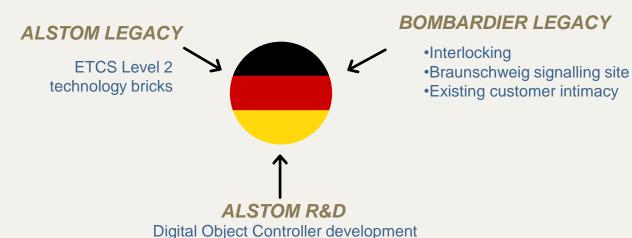
ATLAS ONBOARD THE MOST DESIRED SOLUTION

SUCCESSFUL **GERMAN ROLL-OUT COMMERCIAL DYNAMIC** 

**Stuttgart projects** considered as trend setter for

the German roll-out

#### **SCALE-UP** BENEFITTING FROM DECREASING ENTRY BARRIERS FOR ALSTOM



### SUCCESSFUL COMMERCIAL DYNAMIC & AMBITIOUS PLAN ~700 m€ orders FY20/21 FY21/22 FY22/23 FY23/24 FY24/25 FY25/26 ~70 m€ revenues >30% in FY 20/21 (before the merge sales **CAGR**

# Deliver projects locally leveraging a worldwide footprint

#### LEVERAGE SCALE WHILE SECURING CUSTOMER INTIMACY

### **SIGNALLING SOLUTIONS**

**Application** customization

R&D

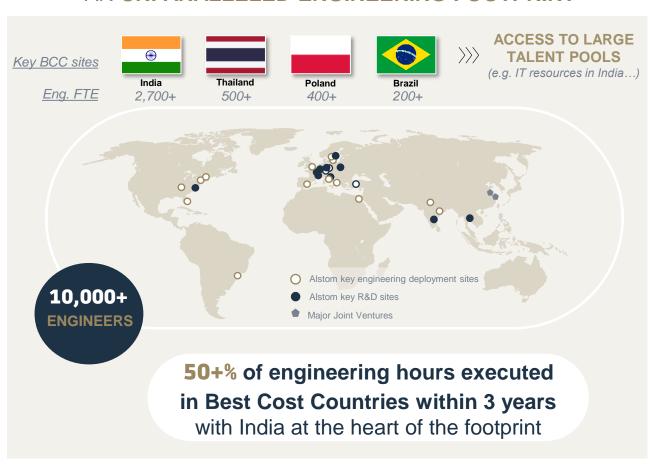
(Application software & technical platform)

Deliver & maintain **CLOSE TO CUSTOMERS** 

CONCENTRATED **FOOTPRINT** 

developing standard solutions (~10 key sites)

#### **DELIVER EFFICIENTLY THROUGH** AN UNPARALLELED ENGINEERING FOOTPRINT



## A sustained pace of innovation introduced in customer projects

#### **ACCELERATE DIGITALIZATION**

# Implement innovations on a major customer contract

#### Delhi-Meerut project illustration:

- Most advanced ERTMS solutions
- Hardware/software decoupling in operations



# CYBERSECURITY BECOMING SYSTEMATIC ON OFFERS from 20 to 140 live projects over last 5 years

LATEST PRODUCTS GENERATION

DESIGNED FOR CYBERSECURITY

INSTALLED BASE HARDENING STRATEGY

SERVICES TO CUSTOMERS

SUPPORT CYBER
TRANSFORMATION &
OPERATIONS





Lead RAILWAY CYBER STANDARDS design (CENELEC, IEC)







PORTFOLIC

## Signalling franchise set for high-single digit growth

#### SIGNALLING **BUSINESS PROFILE**

#### FY2022/23:

- Backlog 7.5bn€
- Orders 2.9bn€
- Sales 2.4bn€

#### **Contracts:**

- Typical small size; < 2 years
- Few > 100m€; 3 5 years

#### Cash:

- Low downpayments
- Electronics inventories
- Positive working capital

#### PROFITABILITY IMPROVEMENT LEVERS

DEVELOPMENT LEVERS BUSINESS

**Small orders** boost

Selectivity

**High Single Digit growth pattern** o/w services fast development

Harvesting customer long term relationship

Increased share of contract indexation

OPERATIONAL LEVERS

**Increase Best-Cost** vs. High-Cost countries engineering content

- Cost of labor
- > Productivity
- > Access to digital skills

Scaling effect on R&D

Convergence roadmap

> Decreasing R&D Intensity

#### **HEADWINDS** MONITORING



Improving, backlog to be delivered

**CRISIS** 



Business continuity favored over cash optimization



**INFLATION** 

(salaries & raw materials)

Largely mitigated

FRANCHISE GEARED TO REACH DOUBLE DIGIT PROFITABILITY OVER NEXT 3 YEARS

## Systems commercial success driving double digit growth

# SYSTEMS BUSINESS PROFILE

#### FY2022/23:

- Backlog 6.3bn€
- Orders 1.0bn€
- Sales 1.5bn€

#### Very large projects business

- Several hundred millions to > €1bn
- 5-7 years execution

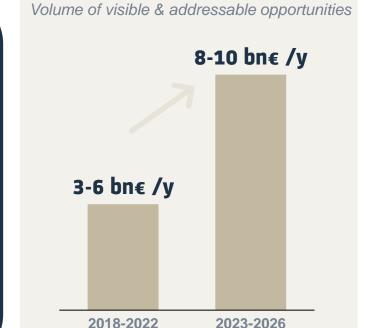
#### **Profitable enabler**

- Low R&D, low Capex
- Operations and Maintenance enabler

#### **Cash generator**

- Well financed contracts
- Negative working capital

# INCREASING VISIBLE PIPELINE OF OPPORTUNITIES



#### STRONG ALSTOM POSITIONING

# ALSTOM LEADING PLAYER AMONG THE 3 GLOBAL PLAYERS



#### "KEEP BEING THE BEST-IN-CLASS SYSTEM PROVIDER TO BE SELECTED AS THE BEST PARTNER"

- Proven delivery track-record
- Unique vertical integration from system level to all key sub-systems
- > Technology & competitiveness



**Cairo Monorail** 



Riyadh metro



Tren Maya

#### ... WITH STRONG HIGH SINGLE DIGIT PROFITABILITY

