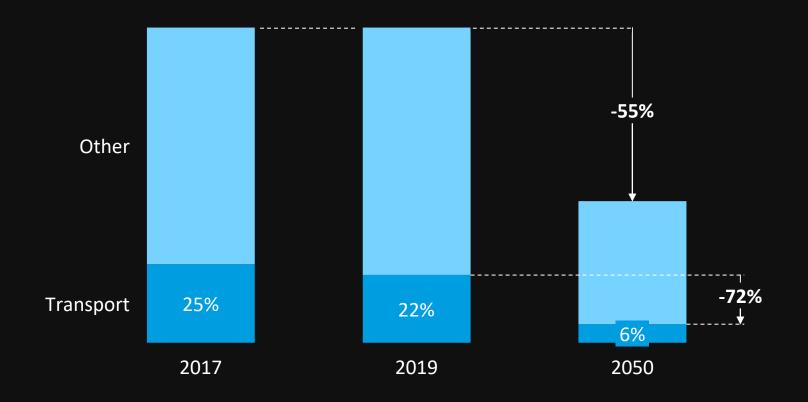


### RAIL IS CRITICAL TO ENSURE PROGRESS IN DECARBONIZATION IN EUROPE

Current CO<sub>2</sub> emissions and planned reductions by 2050 As set out in the European Green Deal



### **Comments**

Rail offers benefits compared to trucking, including

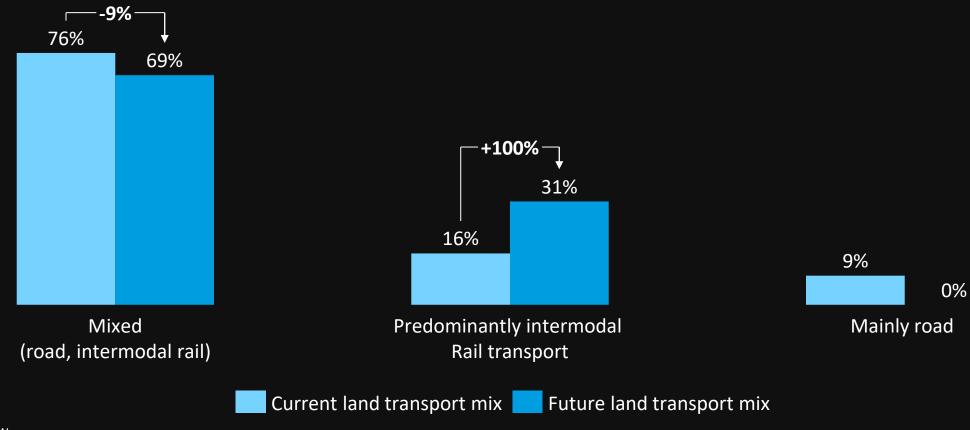
- Higher fuel efficiency
- More efficient land use
- Less air and noise pollution
- Less congestion and wear and tear on roads

Source: European Green Deal, Oliver Wyman

### COMPANIES WANT TO USE RAIL IN ORDER TO DECARBONIZE THEIR SUPPLY CHAINS

Potential current & future transport mix

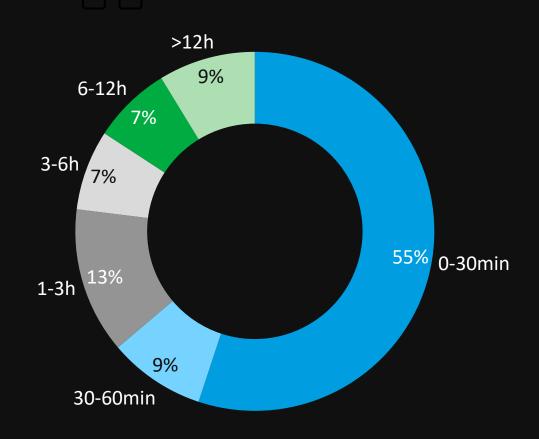
As per survey respondents



Source: Oliver Wyman survey

# BUT FREIGHT RAIL IS NOT YET UP TO THE EXPECTATIONS... AND THE OPERATIONAL CHALLENGES ARE INCREASING

Examples for delays structure on the North South corridor for Intermodal (pre-covid)





### More volatile traffics

(new supply chain requirements, technology shifts, new customer categories,...)



**Capacity bottlenecks** in mixed networks and for terminals



Modernization and retrofit of rail infrastructure

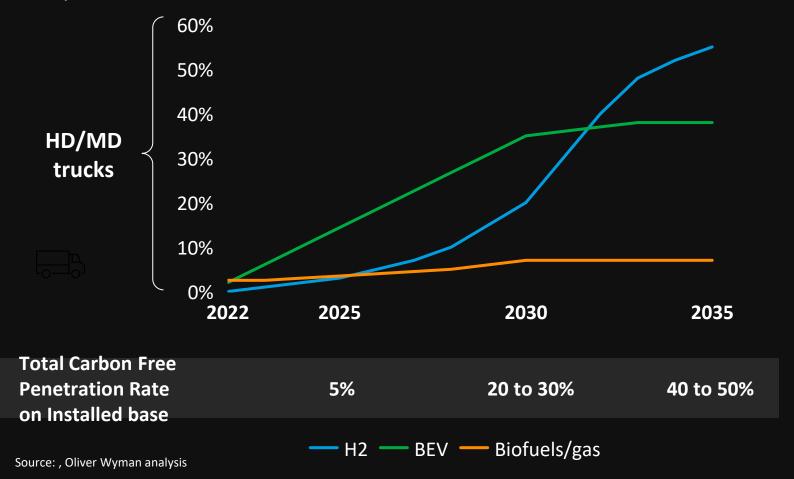


**Skills shortage** 

## WHILE TRUCKING IS MAKING STEADY PROGRESS IN DECARBONIZATION JEOPARDIZING RAIL'S ADVANTAGE

### Oliver Wyman view on technology penetration

% of penetration on sales; limited to EU, US and China



**FCEV more promising solution for long distances** but will need 5-years before large commercialization

**Biogas** as relevant lever to decarbonize fleets in the short term but niche market

BEV represents the main short-term solution to face decarbonization pressures (return to base applications)

### "BE MORE CUSTOMER CENTRIC"



## NEW CUSTOMER EXPECTATIONS DRIVING MODE CHOICE INCLUDE COMPLETE TRANSPARENCY THROUGHOUT THE TRANSPORT CHAIN

Decision criteria for modal selection, manufacturing customers

As per survey respondents

Door-to-door offer			42%	42% 12%			46%		
Secured, long-term access to capacity			35%			23%	42%		
Flexibility		23%			<b>27%</b> 50%				
Lead time		23%			27% 50%				
Digital front end & integration		23%		19%	6		58%		
Track and trace		15%				69% 15%			15%
Incident management		12%	15%		73%				
Price	0%-	23%					77%		
O/D network	0%	0%				100%			

Very important Important Less important

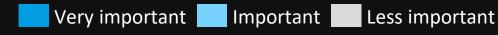
### CUSTOMERS PLACE THE MOST VALUE ON THE AVAILABILITY OF REAL-TIME INFORMATION & END-TO-END CORRIDOR MANAGEMENT

Required rail operational capabilities, manufacturing customers

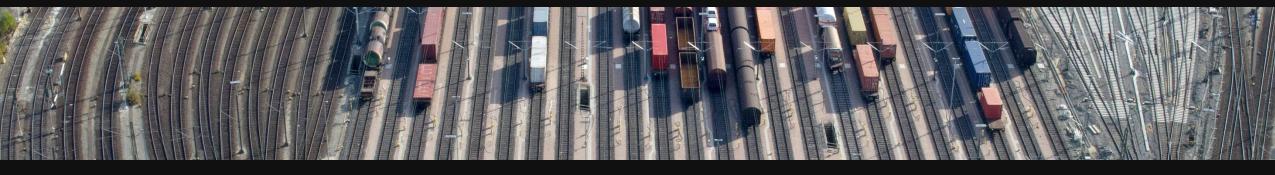
As per survey respondents

Real-time information about location and forecast ETA	38%		27%	35%	
End-to-end coverage of freight corridors	27%		31%	42%	
Door-to-door capabilities, incl. first/last mile	23%	23% 19% 58%		58%	
Integration with TMS/control tower	23%		35%	42%	
Development of solutions for the entire supply chain	19%	19%		62%	
Detailed information on the carbon footprint	12%	31%	6 58%		
Support for converting the supply chain to CT	12%	31%		58%	
Terminal access	8%	35%		58%	
Access to and control of capacity (rail, traction)	8%	31%		62%	
Value-added services (storage, insurance, etc.)	8% 8%		85%		

ETA= Expected Time of Arrival; TMS= Transport Management System; CT= Combined Traffic; Source: Oliver Wyman survey



# SIX THEMES FOR DEVELOPMENT STAND OUT AS CRITICAL TO ENSURE RAIL COMPETITIVENESS IN THE FUTURE





Modernization through automation and digitalization



Increased flexibility



Less complexity and more customercentricity



Solutions design competence



Corridor and construction management



Evolving the Rail Freight Ecosystem

**KEY TAKEAWAY** 

Only by adapting to satisfy evolving customer requirements, reduce complexity, and improve service performance and reliability will rail freight operators be able to win share from trucking and play a larger role in helping combat climate change.

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