

MAINTENANCE PLANNING - AUSTRIAN MOTORWAYS

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iHEEP/TEM Meeting Dubrovnik

June 5-7, 2017

Content

- ASFINAG Group
- ASFINAG Network: Facts and Figures
- ASFINAG's Asset Management
- Maintenance Strategy
- Processes and Tools

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ASFINAG Group: Evolution over the years I

- 1960:** Foundation of “companies for special purposes“ for Alpine crossing projects
- 1982:** Establishment of ASFINAG – initially exclusively as financing company for the “special companies” to coordinate all credit operations
- 1993:** Foundation of ÖSAG und ASG by merging 6 „special companies“
- 1997:** Concession for construction, operation and tolling (“Usufructus contract”)
→ ÖSAG and ASG taken over by ASFINAG
→ Service contracts for operation (with federal states)
→ introduction of **toll sticker** (vehicles < 12 t)

ASFINAG Group: Evolution over the years II

2004: Introduction of heavy vehicle tolling (vehicles > 3,5 t)
→ distance-based toll

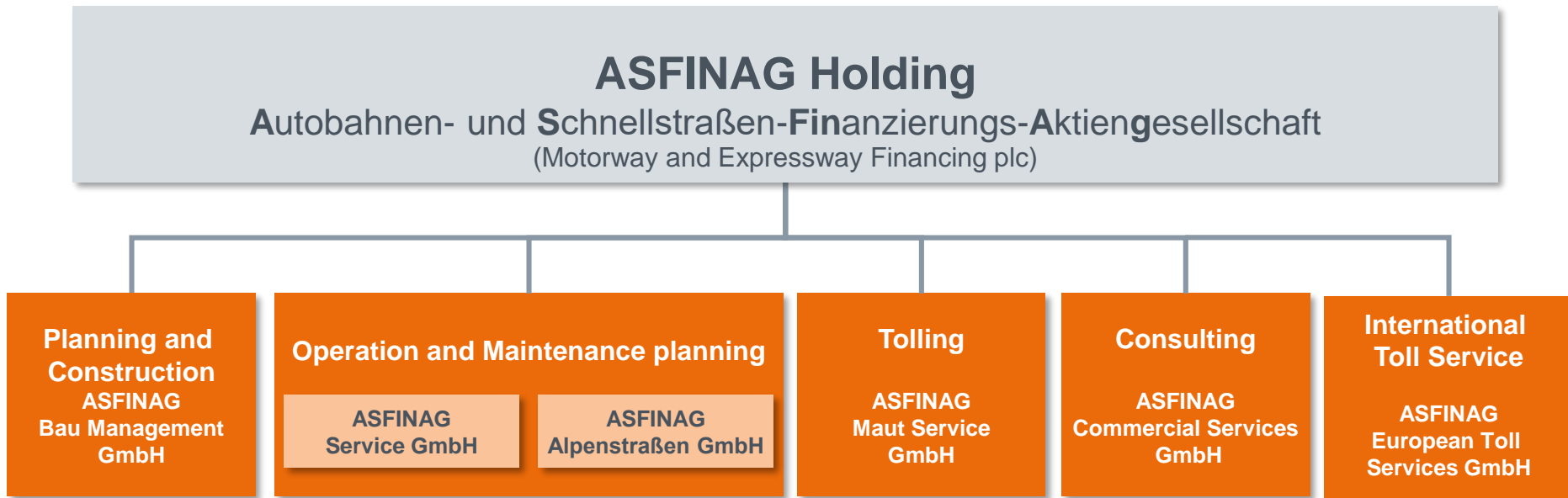
2005: Merging of ASFINAG, ÖSAG und ASG
acquisition of EUROPPASS → takeover of tolling
system

2006: Termination of service contracts with federal states
→ road operation and maintenance by ASFINAG

2007: Amendment of Usufructus contract: Obligation to
prepare a 6-year master plan for construction and
maintenance

ASFINAG Group: Today

Organisation chart



➔ public limited company
100% owned by Republic of Austria

ASFINAG Group: Vision 2020

Top-level Service Provider

ASFINAG is one of Europe's leading motorway network operators with a special focus on

- availability
- traffic management
- traffic information
- road safety and
- technological innovations

We act internationally and interlink with public transport.

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ASFINAG: Toll road network

Total length: 2,199 km



ASF|IN|AG Network: Key Figures I










- Length of network: **2,199 km**
- Lane kilometres: **12,616 km**
- Tunnels: **164**
- Kilometres in tunnels: **383**
- Bridges: **5,192**
- Kilometres on bridges: **340**
- Noise protection facilities: **1,336 km** (at the roadside and along central reservations)
- Total area of noise protection walls: **4.352 km²**

ASFINAG Network: Key Figures II

- Motorway operation and maintenance facilities: **43**
- Motorway service stations: **86**
- Rest areas: **49**
- Parking areas: **107**
- **18,356** parking spaces for cars and **6,886** for trucks

ASFINAG Network: Key Figures III

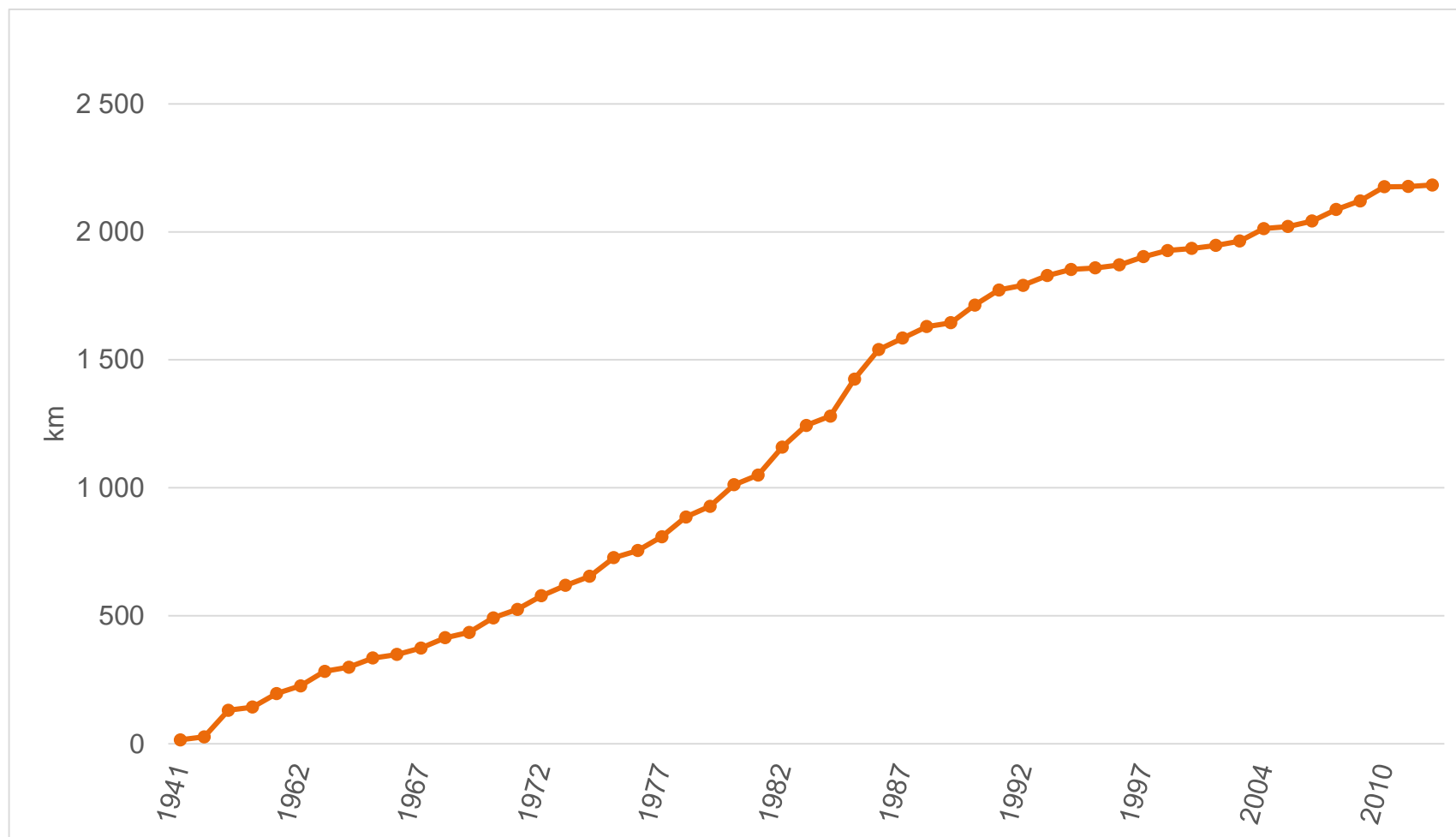
Revenues 2016

<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Up to 3.5t mpgw</p>	 <p>Toll sticker</p>   <p><i>Revenue*) of EUR 472.2 million</i></p>	<p>Special toll</p>   <p><i>Revenue*) of EUR 172.7 million</i></p>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">More than 3.5t mpgw</p>	 <p>Fully electronic toll payment by GO-Box</p>    <p><i>Revenue*) of EUR 1,273.6 million</i></p>	

*) net revenue 2016, rounded

ASFINAG Network: Key Figures IV

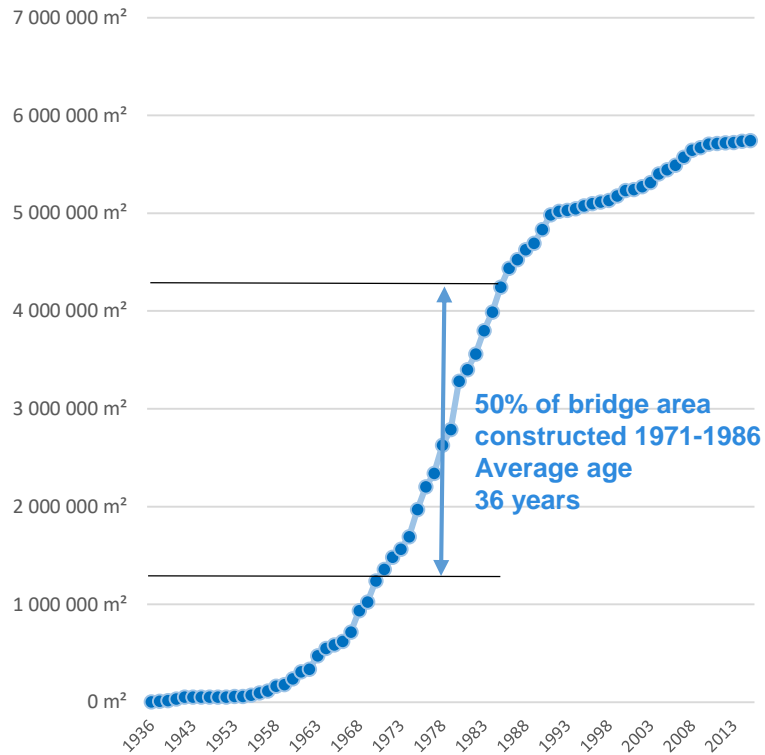
Network growth



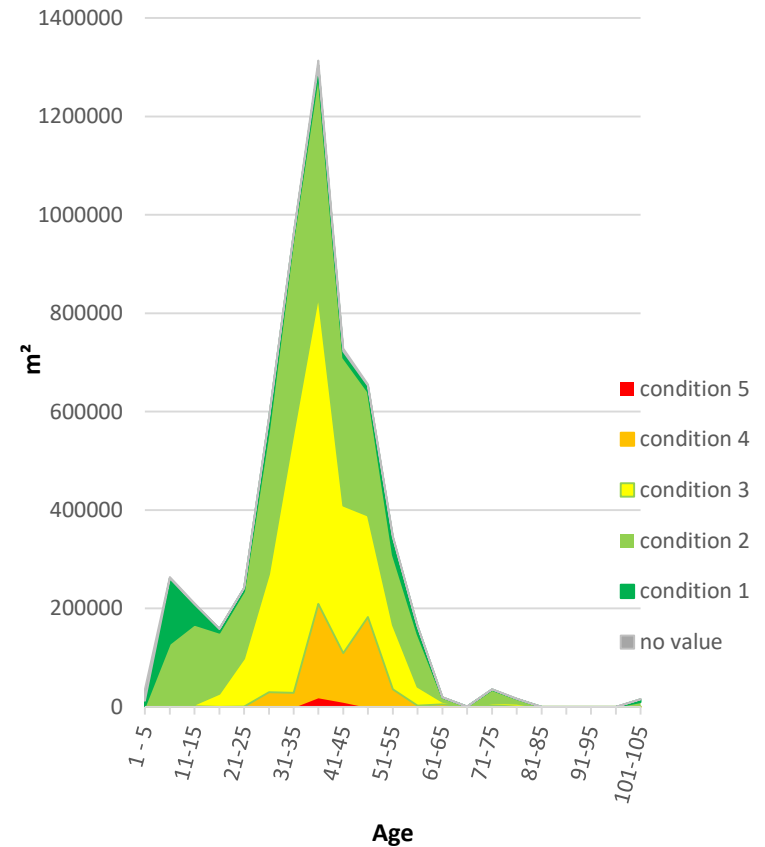
ASFINAG Network: Key Figures V

Age distribution and condition of bridges

Bridge area vs year of construction



Condition of bridges vs age



Content

- ASFINAG Group
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Asset Management

Operation and Maintenance

ASFINAG Holding
 Autobahnen- und Schnellstraßen-Finanzierungs-Aktiengesellschaft
 (Motorway and Expressway Financing plc)

Planning and
 Construction
 ASFINAG
 Bau Management
 GmbH

Operation and Maintenance Planning

**ASFINAG
 Service GmbH**

**ASFINAG
 Alpenstraßen GmbH**

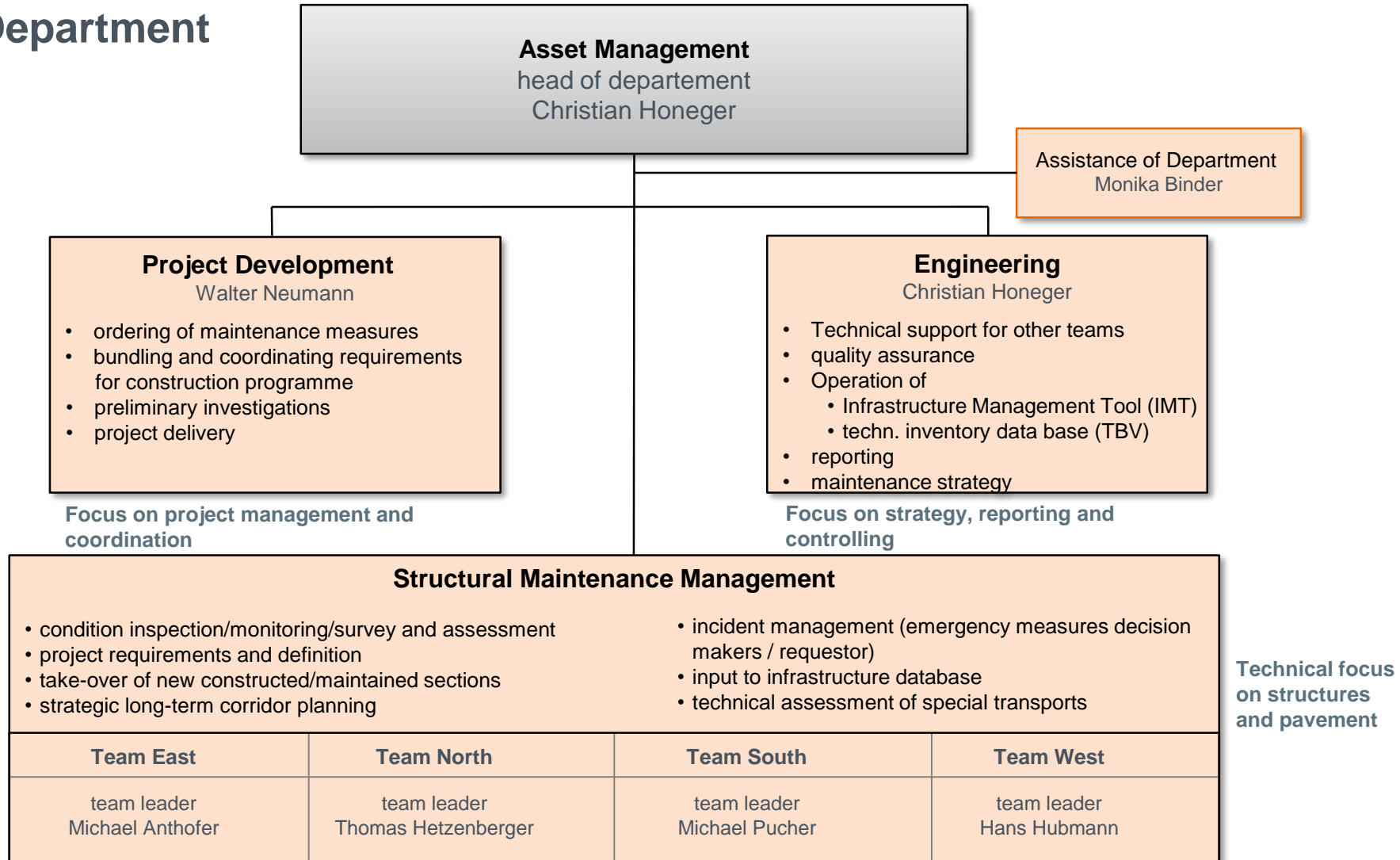
Tolling
 ASFINAG
 Maut Service
 GmbH

Consulting
 ASFINAG
 Commercial Services
 GmbH

International
 Toll Service
 ASFINAG
 European Toll
 Services GmbH

Asset Management

Department



Asset Management - Organisation

Teams



ASFINAG MOTORWAY MAINTENANCE, MONITORING CENTRES

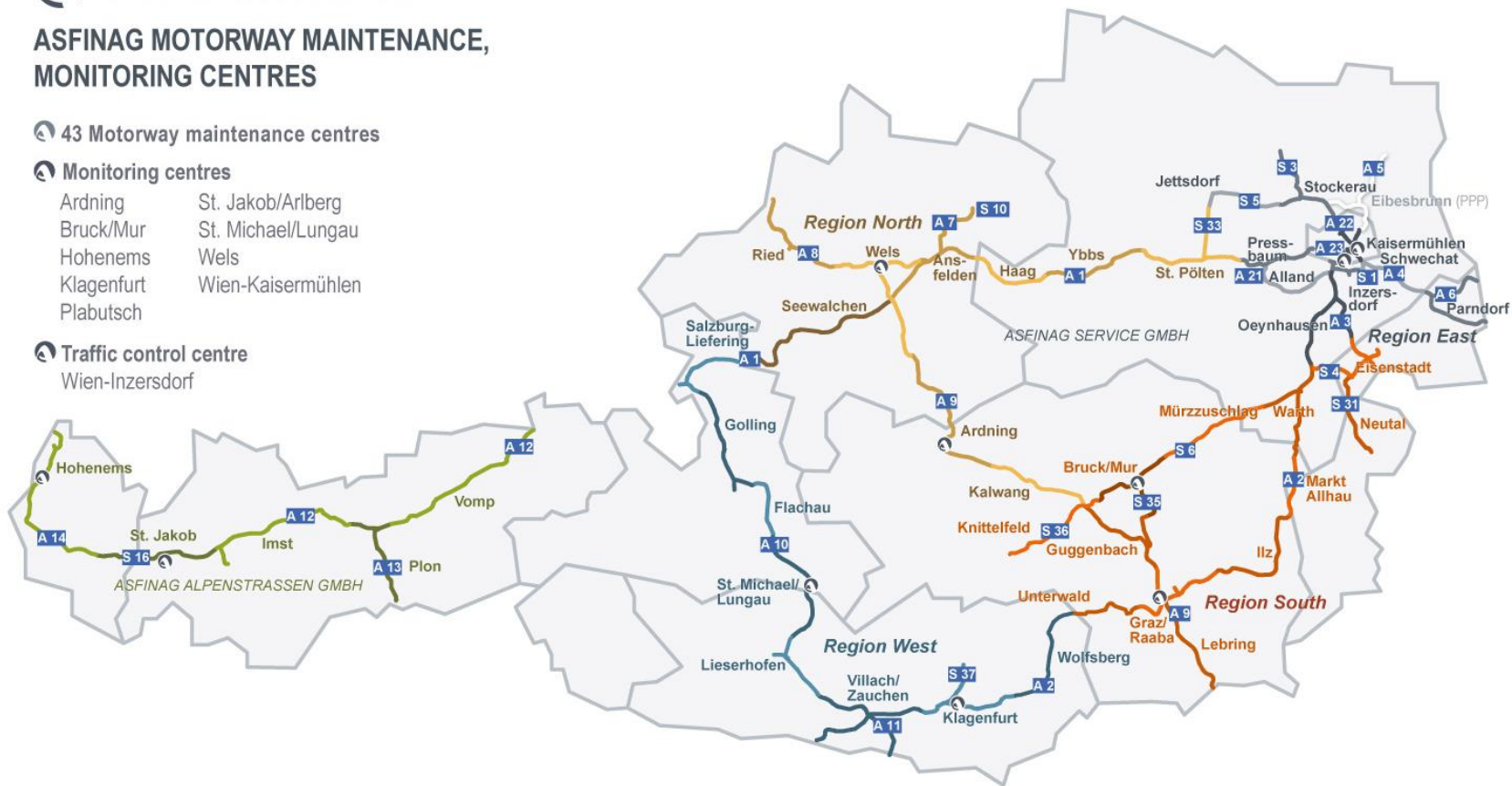
43 Motorway maintenance centres

Monitoring centres

- Ardning
- Bruck/Mur
- Hohenems
- Klagenfurt
- Plabutsch
- St. Jakob/Arlberg
- St. Michael/Lungau
- Wels
- Wien-Kaisermühlen

Traffic control centre

- Wien-Inzersdorf



Content

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Maintenance Strategy

Strategies to implement ASFINAG's "Vision 2020"

Finance:

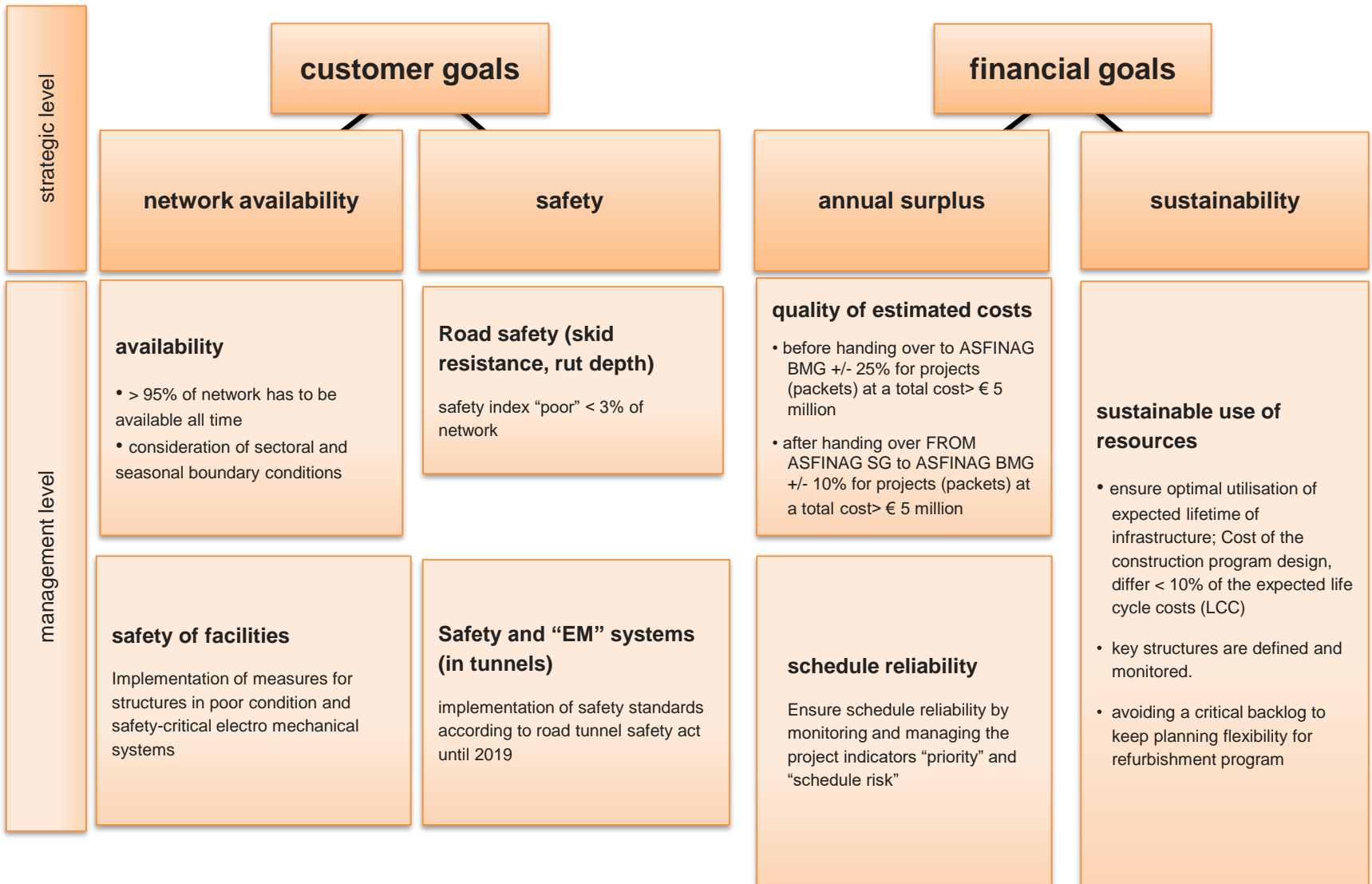
To obtain a balance between revenues, investments and expenses to ensure ASFINAG's economic independence

Customers:

Increasing customer satisfaction by (inter alia)

- providing a safe and optimally available road network

Maintenance Strategy Overview



Content

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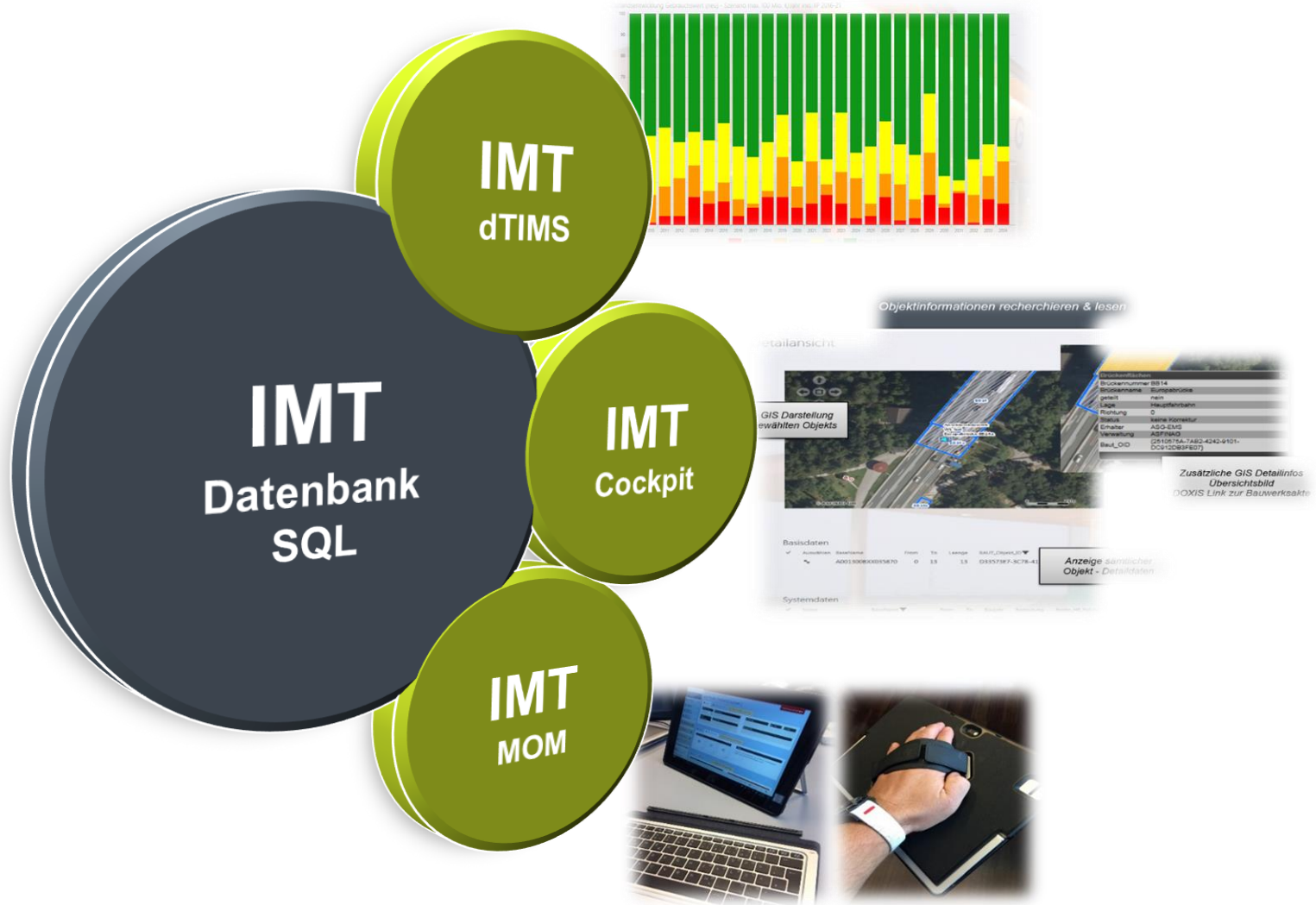
Asset Management Processes and Tools

Processes

- **Mid-term maintenance planning – budget provided in the 6-year construction programme**
 - ⇒ **planning on object level (by engineers)**
- **Long-term project preview – corridor planning (6-15 years)**
 - ⇒ **preview in corridor level (by engineers)**
- **Long-term budget planning – requirement planning (15+ years)**
 - ⇒ **portfolio planning on network level**

Asset Management Processes and Tools

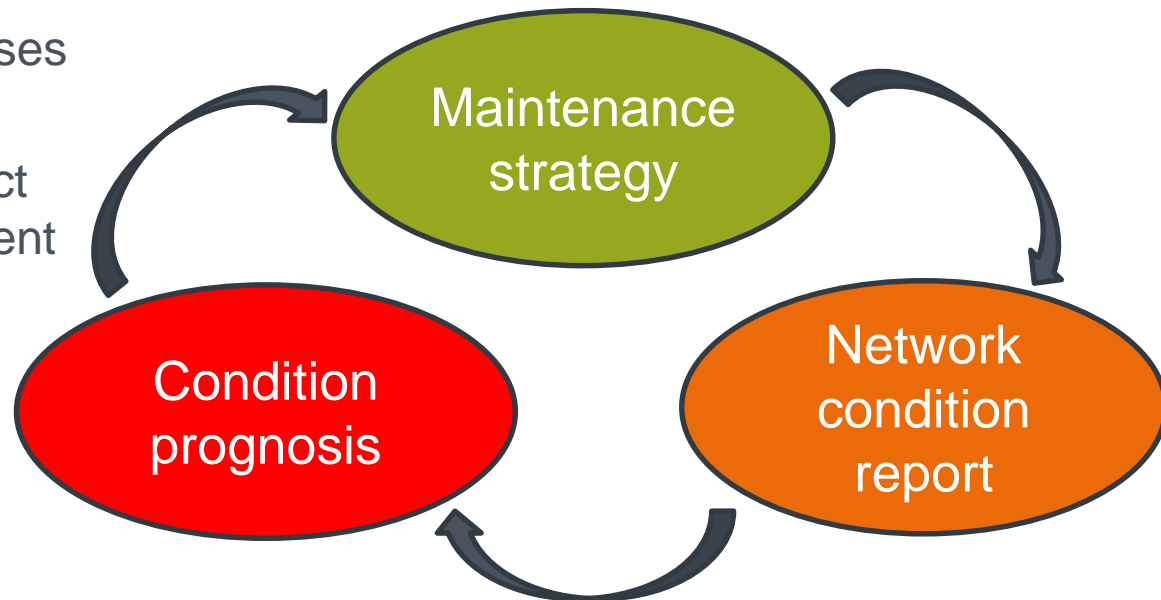
Infrastructure Management Tool - IMT



Asset Management Processes and Tools

Strategic Network Condition Report

- Internal information about current network condition, the consequence of 6-year maintenance plan and expected long term development of network condition.
- Content
 - Inventory data for asset classes
 - Condition of asset classes
 - Financial effort for refurbishment and effect to condition development
 - Prognosis models and long term financial requirements



Conclusion

Maintenance Planning

Conclusion

Main success factors to achieve strategic objectives:

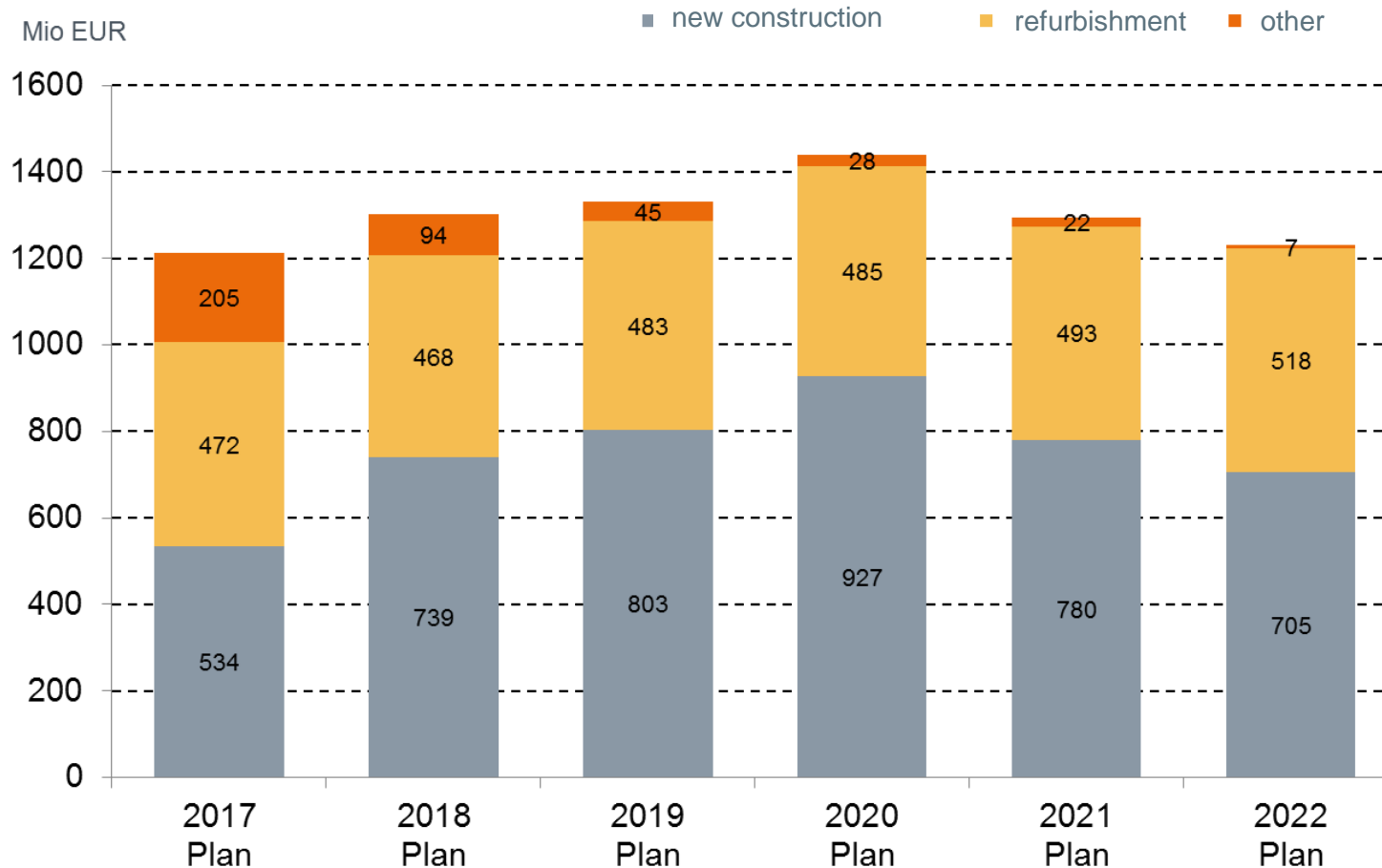
- Available budget
- Necessary measures
- Customer demands
- Sustainable use of resources (finances and staff)



**Reliable implementation of
right measures in the right time**

ASFINAG: Construction Programme

Mid-term Plan



Financed only by toll revenues, no state grant!



RELIABILITY ALL THE WAY.