2nd MEETING OF ROAD EXECUTIVES NETWORK

28 May 2024
Vienna, Austria

ASFINAG and Asset Management

Dr. Anton Sieber MBA
Managing Director
ASFINAG Commercial Services GmbH

+43 664 60108 10410
anton.sieber @asfinag.at
BUSINESS SECTORS
ASFINAG operates all motorways in Austria

rural areas
< 20,000 vehicles/day

urban areas
> 200,000 vehicles/day
SCOPE OF ACTIVITIES

- OPERATION
- MAINTENANCE
- CONSTRUCTION
- TOLL COLLECTION
- FINANCING
HISTORY – FORMATION OF ASFINAG

“As Special companies”

As of 1960:
- Brenner-, Tauern-, Pyhrn Autobahn and Arlbergstraßentunnel
- Autobahnen- und Schnellstraßen AG (ASAG)
- Wiener Bundesstraßen Gesellschaft (WBG)

“ASFINAG old”

1982: Establishment of ASFINAG – initially exclusively as financing company

1993: Foundation of ÖSAG (Tauern, Pyhrn, WBG, ASAG) and ASG (Arlberg, Brenner)
### HISTORY – EVOLUTION OF ASFINAG

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>Usufructus contract → toll sticker (ÖSAG/ASG taken over by ASFINAG)</td>
</tr>
<tr>
<td>2004</td>
<td>Introduction of truck toll</td>
</tr>
<tr>
<td>2005</td>
<td>Europass taken over</td>
</tr>
<tr>
<td>2006</td>
<td>Termination of service contracts with federal provinces, roads now operated directly by ASFINAG</td>
</tr>
<tr>
<td>2010</td>
<td>Consolidation of operational service companies (“SG new”)</td>
</tr>
<tr>
<td>2011</td>
<td>Evaluation of all projects</td>
</tr>
<tr>
<td>2020</td>
<td>Approval of ASFINAG vision 2030</td>
</tr>
</tbody>
</table>
CORPORATE STRUCTURE

REPUBLIC OF AUSTRIA

ASFINAG

Holding

Josef Fiala   Hartwig Hufnagl

ASFINAG

Bau Management GmbH

Alexander Walcher
Andreas Fromm

ASFINAG

Maut Service GmbH

Bernd Datler
Claudia Eder

ASFINAG

Service GmbH

Heimo Maier-Farkas
Tamara Christ

ASFINAG

Alpenstraßen GmbH

Stefan Siegele

ASFINAG

Commercial Services GmbH

VAO Verkehrsauskunft Österreich
Traffic Information Austria

ASFINAG

European Toll Service GmbH
31.7 BILLION km of total traffic per year

2,249 kilometres of road network

42 Motorway operation and maintenance facilities

~3,100 Employees

6 Toll stations

9 Traffic management centres
20 Nationalities

~1,400,000 Investments in training in EUR/year

~3,100 Employees

~30 Apprentices

~25 Percentage of women

9 Apprenticeship trades
ASFINAG VISION

„AS A RELIABLE, INNOVATIVE AND SUSTAINABLE MOBILITY PARTNER, WE CONNECT REGIONS AND PEOPLE IN THE HEART OF EUROPE.“
ASFINAG MISSION

TOGETHER WITH OUR PARTNERS, WE ENSURE MOBILITY FOR GENERATIONS TO COME. WITH FORWARD-LOOKING, SUSTAINABLE AND INNOVATIVE SOLUTIONS, WE REPRESENT PART OF AUSTRIA’S MAJOR SHIFT IN MOBILITY.

📍 We invest in the quality of our network, constantly developing it both ecologically and economically with Austria’s overall mobility system in mind.
📍 As a competent road operator, we offer our customers safe and efficient motorways and expressways.
📍 With our modern toll products & digital information services, we are a customer-oriented service provider.
FUNDING AND KEY FIGURES
ASFINAG’S FUNDING MODEL

- **ASFINAG** is a prominent and well-established bond issuer on the national and international financial markets.
- The bonds come with a **guarantee** from the Republic of Austria and are rated **AA+/Aa1** by rating agencies.
- Thanks to the government guarantee and this rating, ASFINAG benefits from extremely **favourable funding terms**.
- International loans take place under the ASFINAG **European Medium Term Note Programme** (EMTN), which is updated annually and defines the legal framework for the issuances.
**FINANCING: KEY DATA**

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long-term financial liabilities</td>
<td>8.7 billion euros</td>
</tr>
<tr>
<td>Average nominal interest rate</td>
<td>1.75%</td>
</tr>
<tr>
<td>Interest type</td>
<td>99% fixed / 1% variable</td>
</tr>
<tr>
<td>Average residual maturity</td>
<td>6.6 years</td>
</tr>
<tr>
<td>Currency</td>
<td>EUR</td>
</tr>
</tbody>
</table>

As of: 30.04.2023
REVENUE 2022

HOW ASFINAG USES ITS REVENUE
(In million Euros)

Revenue: € 2,666

- Construction, renovation, investment: 1,135
- Operation, toll collection, other: 512
- Taxes, fees, dividends: 490
- Interest: 191
- Debt relief: 293
- Other Invest: 45
ROUND-THE-CLOCK TRAFFIC OVERVIEW
The employees in the new traffic management centres are on duty 24 hours a day, seven days a week. They monitor all road sections and tunnels and control the traffic flows.

WINTER SERVICE AND PRUNING
The employees make sure that even in adverse weather conditions, the motorways and expressways are kept safe. The inspection and maintenance of trees and bushes is carried out in a sustainable manner and also increases road safety.

ROAD SERVICES
Employees are active en route around the clock for our customers, inspecting motorways and service stations and, where necessary, taking measures to ensure the high quality of the infrastructure.
QUICK INCIDENT RESPONSE
Accidents, breakdowns, traffic jams: the employees in the motorway maintenance agencies and the traffic managers in the greater Vienna, Linz and Salzburg areas work tirelessly so that sections are quickly freed up again.

OPERATING TECHNOLOGY IN TOP FORM
Experts monitor, maintain and repair all electromechanical systems such as tunnel ventilation, lighting, emergency telephones and overhead displays.

CONSTRUCTION SITE MANAGEMENT
Renovations are absolutely essential for road safety. Our construction site management makes sure that construction sites use up minimum space and time.

TOLL SUPERVISION: SERVICE AND CONTROL
All toll payers have a right to the monitoring of the adherence to the toll system. Employees ensure that this is always the case throughout the network, with a service-oriented attitude.
SERVICE COMPANIES – FACTS

4 MILLION kilometres of winter service trips

260 Service stations maintained

1200 Deployments as first responder on the road

8700 tons of waste collected in a year

1000 Watercourse protection facilities
TRAFFIC MANAGEMENT

TRAFFIC MANAGEMENT OBJECTIVES

- **Increased traffic safety:** Operation of modern tunnel systems
- **Optimised traffic flow:** Traffic management centres monitor and control traffic flow using modern telematics systems and ITS.
- **High section availability:** Control centre for heads of operations and support in incident management
- **Up to date traffic information:** Traffic situation and incident situations, construction site information, parking space utilisation, available parking, route recommendations
ASFINAG ALONG THE ROUTE

IN CONTACT WITH OUR CUSTOMERS

Service and control department
- Carries out toll controls and provides support regarding all questions on tolls.
- Supports our customers with advice and assistance and is a customer service professional.

Traffic managers
- Respond with rapid on-site assistance in the event of accidents and breakdowns in the metropolitan areas of Vienna, Linz and Salzburg.
- Professional cooperation with emergency services in the event of an incident.
IN CONTACT WITH OUR CUSTOMERS

Technical roadside inspection
- Provides increased traffic safety and identifies defects on vehicles before they become a problem.
- Carries out its inspections on behalf of the states and cooperates successfully with the executive.

Road services
- Monitors condition of road surface and all safety systems, independently repairs small defects.
- Outside of the traffic managers’ areas: Professional cooperation with emergency services in the event of an incident.
BAU MANAGEMENT GESELLSCHAFT
NEW CONSTRUCTION AND RENOVATION
Bau Management GmbH (BMG) carries out all construction measures for the new construction and maintenance of the motorways and expressways. It also builds access and exit lanes, service stations and traffic control checkpoints, and implements noise protection measures.

NEEDS-BASED PROJECT DEVELOPMENT
BMG plans projects based on the requirements of people and the economy. The planning process is open, and takes into consideration the interests of all those involved. Projects are developed in a comprehensible, transparent manner.

ASSET MANAGEMENT
In the framework of maintenance management, infrastructure facilities are permanently monitored and checked. BMG ensures that roads, tunnels and bridges are efficiently maintained with the greatest possible level of safety.
BAU MANAGEMENT GESELLSCHAFT—FACTS

- **5818 Bridges**
- **166 Tunnels**
- **1.135 Billion Euros Sustainable investment**
- **1400 Ongoing projects (preparation, construction and follow-up)**
- **2200 Commissioning in the fields of service, construction and supply**
MAUT SERVICE GESELLSCHAFT
MAUT SERVICE GESELLSCHAFT – CORE AREAS

TOLL COLLECTION
Maut Service Gesellschaft (MSG) is responsible for collecting tolls. This includes passenger vehicle toll (time and distance-related) and truck toll (distance-related). MSG sends out substitute tolls if the toll hasn’t been paid accordingly. It also caters to a large sales partner network.

CUSTOMER SERVICES
At our Service Center, well trained staff takes care of our customers’ wishes around the clock and in 7 languages. It furthermore processes complains and organises trade shows and events, among others.

IT SERVICE PROVIDER
With bundled competencies MSG provides all information technology services to all companies for their office locations and operations on the ASFINAG road network. MSG is also responsible for marketing data lines and bandwidths.
PAYMENT SERVICES
Within the competence of MSG falls the settlement of truck and passenger vehicle tolls with providers such as fuel, debit and credit cards, PayPal and direct withdrawal. In addition, the processing of GO toll credits, payments of additional truck tolls and international tolls with TOLL2GO, EasyGo and EETS providers takes place at MSG.

ITS SERVICES
The expansion of the ASFINAG video system and sensor network, the provision of real-time traffic information, the implementations for software solutions for operations, the further development of Cooperative Services (C-ITS) and the support for the introduction of Automated Driving are located in the MSG.
## TOLL PROCEEDS (IN MILLION EUROS)

<table>
<thead>
<tr>
<th>Description</th>
<th>2022</th>
<th>Change</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TOTAL TOLL PROCEEDS</strong></td>
<td>2,443</td>
<td>+6 %</td>
<td>2,304</td>
</tr>
<tr>
<td>Total toll proceeds motor vehicles &lt;= 3.5 tons</td>
<td>766</td>
<td>+17.9 %</td>
<td>650</td>
</tr>
<tr>
<td>Revenue from toll vignettes</td>
<td>540</td>
<td>+13.3 %</td>
<td>477</td>
</tr>
<tr>
<td>Section toll proceeds (Section toll segments)</td>
<td>226</td>
<td>+30.6 %</td>
<td>173</td>
</tr>
<tr>
<td>Total toll proceeds motor vehicles &gt; 3.5 tons</td>
<td>1,677</td>
<td>+1.3 %</td>
<td>1,655</td>
</tr>
</tbody>
</table>
## TOLL VIGNETTE RATES 2024: AN OVERVIEW FOR MOTOR VEHICLES UP TO 3.5T MPW

<table>
<thead>
<tr>
<th>Vehicle category</th>
<th>annual vignette</th>
<th>vignette 2-month</th>
<th>vignette 10-day</th>
<th>vignette 1-day digitally only</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Single-track motor vehicle</td>
<td>38.50</td>
<td>11.50</td>
<td>4.60</td>
<td>3.40</td>
</tr>
<tr>
<td>B Cars and motor vehicles up to 3.5 t * Kfz</td>
<td>96.40</td>
<td>28.90</td>
<td>11.50</td>
<td>8.60</td>
</tr>
</tbody>
</table>

* Technically permissible maximum laden mass (tzGm), Motorhomes

In EUR incl. VAT
MAUT SERVICE GESELLSCHAFT – FACTS

- **4.21 million** annual vignettes sold – of that 62% in digital form
- **37 million** section toll clearances
- **719 thousand** enquiries at the service centre
- **838 million** toll transactions
- **More than 400** IT services managed

As of 2022
CONSTRUCTION PROGRAM AND ASSET MANAGEMENT
Legal Requirements

- New sections according to Public Road Act
- Second tunnel tubes acc. to Road Tunnel Safety Act
- Noise protection acc. to Service Note Noise Protection on Federal Roads

Conceptual Planning

- Construction of additional lanes → Level of Service
- New rest areas
- New junctions
Main objectives defined in ASFINAG’s maintenance strategy:

- **Sustainable** and substance-preserving implementation of measures → avoidance of backlog
- Road Safety Target Index: > 97% of entire network must be in a **better condition than „poor“ (Class 5)**
- Network Availability Target value: > 95% of entire network must be **free of construction sites**
- Costs of Construction Programme deviates < 10% of **expected life cycle costs**
Maintenance management for Austria's motorway network (more than 2,200 km) incl. more than 18,000 associated civil engineering structures.

Due to the intensive expansion of the network in the 1970s to 1990s, a continuous increase in the need for a structural maintenance can be expected in the coming years and decades. The maintenance budget is already over EUR 600 million in 2022 and will continue to increase in the coming years.

Processing of more than 300 project requirements per year (renovations, renewals and smaller construction measures)

Around 6,500 technical statements on abnormal goods transports

Coordination of ASFINAG employees in app. 220 national and international committees

Coordination of > 50 ongoing research projects
“When it comes to maintenance, ASFINAG strives for an overall optimum for its customers within the framework of the conflicting goals that result from traffic safety, availability, sustainability, the cost-effectiveness of measures, as well as from future requirements and budget restrictions”
AIMS OF THE MAINTENANCE PLANNING

Medium and long-term manageability of the construction program

MAINTENANCE PLANNING
To fulfil the legal, contractual and strategic requirements

Budget
Asset condition
Network availability
METHODOLOGY OF THE MAINTENANCE PLANNING

- Projects
- Regional portfolio
- Overall portfolio

Local maintenance needs
Regional maintenance concepts
Long-term prognoses / demand forecast
LONG-TERM DEMAND FORECAST
Asset Management
Condition data – pavement

Basis are Austrian guidelines
RVS 13.01.15 and RVS 13.01.16

Pavement surface characteristics
- Rutting (rut depth under 2 m straight edge)
- Longitudinal evenness (International Roughness Index IRI)
- Cracking (% of cracked area)
- Surface defects (% of surface defects)
- Skid resistance (longitudinal friction coefficient)

Collected on each single lane and evaluated sections of 50 m length every 4 years

Main input for analysis for pavement
Asset Management

Data collection – pavement condition

RoadSTAR

- Laser scanner
- Positioning system
- Water tank
- Macrotexture
- Watering
- Measurement tire
- Longitudinal evenness
- Transverse evenness
- Surface cam
- Stereo cams
Asset Management
Monitoring, control and inspection - bridges

According to Austrian guidelines RVS 13.03.11

Monitoring
interval: every 4 months
execution: traffic manager
scope: visit directly from the vehicle
to defects and damages
result: written notification of damages
otherwise no recordings necessary

Controls
interval: every 2 years
execution: employees of Asset Management
scope: visit without a scaffolding or lifting equipment
inspection of all building elements
result: written documentation of new damages and
defects and changes to the last inspection;
urgent measure

Inspections
interval: every 6 years
execution: external civil engineer
scope: inspection of all building elements with
a lifting equipment
result: written documentation of new damages and
defects, requirement of maintenance and
repair works with a time criterion
## Asset Management
### Monitoring, control and inspection - other structures

Procedure according to Austrian guidelines

<table>
<thead>
<tr>
<th>Structure</th>
<th>Guideline</th>
<th>Inspections</th>
<th>Controls</th>
<th>Monitoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Road tunnels</td>
<td>RVS 13.03.31</td>
<td>every 10 years</td>
<td>2 years</td>
<td>every 4 months</td>
</tr>
<tr>
<td>Anchored constructions</td>
<td>RVS 13.03.21</td>
<td>every 10 years</td>
<td>3 years</td>
<td>annually</td>
</tr>
<tr>
<td>Directional gantries</td>
<td>RVS 13.03.51</td>
<td>every 6 years</td>
<td>2 years</td>
<td>every 4 months</td>
</tr>
<tr>
<td>Unanchored</td>
<td>RVS 13.03.61</td>
<td>every 12 years</td>
<td>3 years</td>
<td>annually</td>
</tr>
<tr>
<td>Retaining walls</td>
<td>RVS 13.03.71</td>
<td>every 12 years</td>
<td>4 years</td>
<td>annually</td>
</tr>
<tr>
<td>Noise protection walls</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Asset Management**

**Assessment of bridge condition according to RVS 13.03.11**

<table>
<thead>
<tr>
<th>Classification</th>
<th>Damages</th>
<th>Maintenance measure</th>
<th>Mark</th>
</tr>
</thead>
<tbody>
<tr>
<td>very poor condition</td>
<td>very serious damages</td>
<td>immediately required repair</td>
<td>5</td>
</tr>
<tr>
<td>poor condition</td>
<td>serious damages</td>
<td>Short-term (within 3 years)</td>
<td>4</td>
</tr>
<tr>
<td>fair condition</td>
<td>moderate damages</td>
<td>Medium-term (within 6 years)</td>
<td>3</td>
</tr>
<tr>
<td>good condition</td>
<td>minor damages</td>
<td>Correction of the damages by maintenance work</td>
<td>2</td>
</tr>
<tr>
<td>very good condition</td>
<td>Without or very little damages</td>
<td>-</td>
<td>1</td>
</tr>
</tbody>
</table>
ASSET MANAGEMENT SYSTEM OF AUSTRIA’S HIGH-LEVEL ROAD NETWORK

DETAILED PRESENTATION
AUSTRIAS TOPOGRAPHY AND TRAFFIC VOLUME

AADT 2022:
- 0 - 10000
- 10000 - 25000
- 25000 - 50000
- 50000 - 75000
- 75000 - 100000
- 100000 - 150000
- über 150000

MSL:
- High: 3793,36
- Low: 111,965
ASSET MANAGEMENT

ORGANIZATION AND

CHALLENGES IN

FIGURES
Regional structural maintenance teams

WEST  
NORTH  
SOUTH  
EAST

Engineering
- strategic asset management
- internal technical consulting
- documentation and archive

Maintenance management
- Condition assessment
- Technical expertise on site

Requirement management
- Definition of technical treatments
- Bundling, defining and ordering projects

Asset management strategy
- Reporting (condition, treatments, fulfillment of strategy goals)
- Technical portfolio management
- Internal technical consulting
- Standardisation (internal and external guidelines)
- Management of R&D and innovation
- Archives
ASSET MANAGEMENT

Engineering
Strategy, steering and reporting

Structural Maintenance
Condition assessment

Requirements Management
defining and ordering projects
ASSET MANAGEMENT

Asset Management

- Engineering
- Maintenance management
- Requirement management
### ASSET MANAGEMENT CHALLENGES IN FIGURES

<table>
<thead>
<tr>
<th>Asset class</th>
<th>Quantity</th>
<th>Length [km]</th>
<th>Area [million m²]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pavement</td>
<td>2,258</td>
<td>65.1</td>
<td></td>
</tr>
<tr>
<td>Bridges</td>
<td>5,819</td>
<td>383</td>
<td>5.8</td>
</tr>
<tr>
<td>Tunnel Tubes and Galleries</td>
<td>405</td>
<td>408</td>
<td></td>
</tr>
<tr>
<td>Retaining Walls</td>
<td>1,626</td>
<td></td>
<td>0.90</td>
</tr>
<tr>
<td>Noise barriers</td>
<td>4,186</td>
<td></td>
<td>4.3</td>
</tr>
<tr>
<td>Buildings</td>
<td>1,316</td>
<td></td>
<td>0.49</td>
</tr>
<tr>
<td>Gantries</td>
<td>3,723</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protective Structures</td>
<td>1,077</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
STRUCTURAL MAINTENANCE (BEM)

Maintenance Management requirements management

• Approx. 2,150 main inspections per year.
• Approx. 4,550 minor inspections per year.
• Approx. 120 special inspections per year.
• The total number of project demands has steadily increased in recent years and is currently (2022) more than 1000.
• More than 200 projects annually prepared for project definition and ordering.
• About 6,500 technical advices on special transports (heavy goods, oversized vehicles)
BUDGET FOR MAINTENANCE

Regional divisions / Network development

Regional divisions

Network development

Network length (km):
- SG
- ASG
- Bonaventura
BUDGET AND QUANTITIES FOR MAINTENANCE
BUDGET FOR MAINTENANCE

long term forecast

Mio. €

2 400

2 200

2 000

1 800

1 600

1 400

1 200

1 000

800

600

400

200

0

2022 2024 2026 2028 2030 2032 2034 2036 2038 2040 2042 2044 2046 2048 2050 2052 2054 2056 2058 2060 2062 2064 2066 2068 2070 2072 2074 2076 2078 2080 2082 2084 2086 2088 2090 2092 2094 2096 2098 2000

pricebasis 2022, without price adjustment

inkl. 1.5% price adjustment

Others
Budget network development
Water protection structure
Buildings
Wildlife fence
Gantries
Protective structures
Retaining walls
Noise barrier
Tunnels E+M
Tunnels
Bridges
Pavement
Longterm prognosis 2023 +15% B.
Longterm prognosis 2023 +15%
CONSTRUCTION BUDGET

Focus on refurbishment and reconstruction in the future.

Budget [Mio. €]

Years: 2011 - 2029

- New construction
- Other investments
- Refurbishment and reconstruction

Expenditure vs. Forecast

Refurbishment & reconstruction

60
BUDGET FOR MAINTENANCE

Development of the maintenance budget

<table>
<thead>
<tr>
<th>Category</th>
<th>Past</th>
<th>Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pavement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bridges</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tunnel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tunnel E+M</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retaining walls</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Noise barriers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protective structures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buildings</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Road E-facilities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Road equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water protection structure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toll facilities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approved budget</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Approved budget: 61
Development of the quantities

AMOUNT FOR MAINTENANCE - BRIDGE
AMOUNT FOR MAINTENANCE - PAVEMENT

Development of the quantities

<table>
<thead>
<tr>
<th>Amount for Maintenance</th>
<th>Pavement maintenance renewal</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 m²</td>
<td>0 m²</td>
</tr>
<tr>
<td>500,000 m²</td>
<td>500,000 m²</td>
</tr>
<tr>
<td>1,000,000 m²</td>
<td>1,000,000 m²</td>
</tr>
<tr>
<td>1,500,000 m²</td>
<td>1,500,000 m²</td>
</tr>
<tr>
<td>2,000,000 m²</td>
<td>2,000,000 m²</td>
</tr>
<tr>
<td>2,500,000 m²</td>
<td>2,500,000 m²</td>
</tr>
<tr>
<td>3,000,000 m²</td>
<td>3,000,000 m²</td>
</tr>
<tr>
<td>3,500,000 m²</td>
<td>3,500,000 m²</td>
</tr>
<tr>
<td>4,000,000 m²</td>
<td>4,000,000 m²</td>
</tr>
</tbody>
</table>
ASSET MANAGEMENT IN DETAIL
We offer our customers a well maintained and safe network and use the available resources responsibly.

### Strategy level

- Network safety
- Anticipation and network availability
- Sustainability and planning reliability

### Steering level

- **Road safety index** (pavement surface condition)
- **Structural safety**
  - Engineering structures, treatments if bad condition
- **Construction sites**
  - Maximum % of network
- **Bridge condition**
  - Limit the quote of structures in poor condition
- **Structural index**
  - Pavement wearing course
  - Limit quote of poor condition
- **Electro-mechanical equipment condition**
  - In tunnels
- **Sustainable lifecycle**
  - Minimum quote of preventive maintenance
- **Structural index**
  - Pavement whole layer
  - Limit quote of poor condition
- **Project maturity**
  - Appropriate quote of well-prepared projects
- **Schedule reliability**
  - Before and after realisation order

We offer our customers a well maintained and safe network and use the available resources responsibly.
ASSET MANAGEMENT STRATEGY

**Operational implementation level**

- **network safety**
  - annual inspection plan
  - steering committee
  - annual report
  - annual network condition report
  - technical training
  - information management

- **anticipation and network availability**
  - asset database (IMT, PaveD)
  - pavement management
  - list of key structures
  - corridor analysis
  - bundling of treatments

- **sustainability and planning reliability**
  - Lifecycle management
  - benchmarks for treatments costs and time of construction
  - Project requirement management (PAM)

Asset management manuals
Asset management manuals

- Asset management manuals essentially provide an asset-specific overview of:
  - The layout of structures (components, inspection elements)
  - The data acquisition and attributes of the database
  - The inspections
  - The definition of measures
  - Lifecycles and forecasts
  - Strategic recommendations

- We provide these manuals for:
  - Pavements
  - Bridges
  - Tunnels
  - Buildings
  - Retaining walls
  - Noise barriers
  - Gantries
  - Protective structures
  - Datamanagement
ASSET MANAGEMENT – DIGITAL TOOLS

Datamanagement

User-Interfaces

IMT

MOM

dTIMS

PaveD

SQL-Database-Cluster

Pavement

Bridges

Tunnels

Other Assets

Visualization

ONK03

Route band

GIS

Visualisation maps

Power BI

Visualisierung mit
Charts und Analysen
ASSET MANAGEMENT – DIGITAL TOOLS

Graphical user interface (GUI) for engineers

Pavement (PaveD)  Structures (IMT)
Route band visualization
Geographical information system (GIS)

Section with major refurbishment
- **bis 2027**
- **2028 - 2032**
- **2033 - 2037**
- **2038 - 2042**
- **ab 2043**
ASSET MANAGEMENT - TOOLS

Business Intelligence (PowerBI)

Bridges (area) over time of construction

Construction budget cockpit

Average condition of structures
ASSET MANAGEMENT - ANALYSIS

Pavement management overview

Data collection

Pavement Management System (PMS)

- Netzrisse
- Spurrinnen
- Oberfläche
- Einzelrisse
- Längsebenheit

Distress types

+ Verkehrsbelastung + Alter + Aufbaudaten + Klimadaten

Periodic Surveys

- Oberfläche
- Grilligkeit
- Längsebenheit

Condition rating

- Homogen. Sections
- Schadensmerkmal
- Kilometerlinie

Total condition

- Faktor Wasserfuge
- Grilligkeit
- Allgemeine Längsebenheit
- Spurrinnen
- Netzrisse
- Flickstellen

Substanz

- Gesamt-zustand
- Zustandswert
- Zustandsgröße
- Normierungsfunktion

Homogen. Sections

- INKV

Abschnitt

- 500
- 788
- 73
- 112

Strategie

- Kosten
- Nutzen

- 2020
- 2019
- 2021
- 2018
- 2022

Construction plan

- Deckschicht
- Erneuerung
- Verstärkung

Performance

- Budget Netz
- Kosten Abschnitt
- Deckschicht
- Betriebskosten

Budget / Costs

- Jahr

Prioritätsebene

- Kosten
- Nutzen
- Maximum

Budget Netz

- Jahr

Strategie

- Kosten
- Nutzen
- Maximum

- Jahr

Efficiency analysis

- Treatment effect

- Nutzen

- Kosten

- Jahr

- Abschnittsebene

- Maximum

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr

- Abschnittsebene

- Kosten

- Nutzen

- Jahr
BRIDGE MAINTENANCE

Check whether the bridge is within the **standard life cycle** for maintenance

Check whether the **condition** of the bridge is within the expected range

Evaluation if maintenance is within the strategic concept

- **Too soon!**
- **Perfect!**
- **Too late!**

ASSET MANAGEMENT – EVALUATION OF TREATMENTS
ASSET MANAGEMENT – EVALUATION OF TREATMENTS

Too soon! and good condition!

maintenance is not sustainable

Perfect! maintenance is preventive and sustainable

Too late! and bad condition!

Superstructure probably permanently damaged

- 3% of bridge surface area with extensive renovation in maintenance planning have condition <= 2 and are younger than 33 years
- 6% of bridge surface area with extensive renovation in maintenance planning have condition = 3 and are younger than 33 years
- 0% of bridge surface area with extensive renovation in maintenance planning have condition >= 4 and are younger than 33 years
- 53% of bridge surface area with extensive renovation in maintenance planning are within the standard life cycle
- 6% of bridge surface area with extensive renovation in maintenance planning have condition <= 2 and are older than 45 years
- 26% of bridge surface area with extensive renovation in maintenance planning have condition = 3 and are older than 45 years
- 6% of bridge surface area with extensive renovation in maintenance planning have condition >= 4 and are older than 45 years
CONCLUSION

- **Being financially independent**
  stable funding of budget

- **Being efficient**
  purpose driven company structure

- **Being consistently**
  Asset management strategy derived from company strategy, mission and vision

- **Being comprehensible and connectable**
  use transparent and clear explanation for budget needs and future development

- **Have a good and experienced team**
  develop and take care about your team
  be attractive at the job market
ASFINAG Enabling Act 1997 (ASFINAG Ermächtigungsgesetz 1997)
→ refers to the central element: the Usufruct Contract

Austrian Federal Road Act („Bundesstraßengesetz“)
→ defines the Federal Roads (high-level road infrastructure)
→ tasks of ASFINAG are linked to the Federal Roads

Federal Road Toll Act 2002 (Bundesstraßenmautgesetz 2002)
→ regulates tolls and is decisive for the revenues of ASFINAG and thus the financing of the high-level road network
Cost for ASFINAG’s tasks have to be borne by the revenues ASFINAG gets from tolling.

In order to fulfil her tasks ASFINAG is entitled to carry out credit transactions on the capital market.

In order to optimize the financing conditions for ASFINAG the Federal State assumes liabilities for the debts of ASFINAG (only a liability, no subsidy).

ASFINAG has to pay a fee for state liabilities concerning her debts.
MORE THAN 50 YEARS OF TOLLING EXPERIENCE

- **1968:** First toll station on an Austrian highway
- **1997:** Introduction of a toll sticker for light vehicles (Vignette)
- **2004:** Introduction of “GO-Maut” – distance related toll for heavy vehicles
  → DSRC multi-lane free flow system
- **2017:** Introduction of a digital toll sticker for light vehicles
- **2018:** Start of “GO-Maut 2.0” (start of contract period 1.1.2019)
1,500 fast charging points for electric vehicles on the ASFINAG network by 2030 (with ≥150kW) serving light vehicles

Plus 1,300 charging points serving heavy vehicles until 2035 (1/3 fast charger)

ASFINAG’s own passenger car fleet is currently ~40% electric and by 2025 all light vehicles will be fully electric

ASFINAG will foster the production of electricity by using photovoltaic, wind and small hydropower systems. A renewable energy production capacity of 100MWp shall be installed by 2030.
Austria’s 2030 Mobility Master Plan

The new climate action framework for the transport sector: sustainable – resilient – digital
avoid – shift – improve
ACTIONS TAKEN BY ASFINAG

**Fostering e-mobility**

- **1,500 fast charging points** for electric vehicles on the ASFINAG network by 2030 (with ≥150kW) serving light vehicles
- Plus **1,300 charging points serving heavy vehicles** until 2035 (1/3 fast charger)
- ASFINAG’s own passenger car fleet is currently ~40% electric and **by 2025 all light vehicles will be fully electric**
- ASFINAG will foster the production of electricity by using photovoltaic, wind and small hydropower systems. A **renewable energy production capacity of 100MWp** shall be installed by 2030.
Following its vision 2030, … to become a reliable, innovative and sustainable mobility partner …, ASFINAG is relying on the combination of individual and public transport.

Therefore, ASFINAG will increase its Park & Ride and Park & Drive capacity, of course with charging points for e-cars, and offer carpooling apps and information services.
Intelligent transportation systems will improve the flow of traffic, reduce the likelihood of traffic jams and thereby reduce CO2 emissions.

To enable direct exchange of information between vehicles and the infrastructure ASFINAG started its C-ITS roll-out in 2021 – more than 500 C-ITS units will be installed on the Austrian motorway network.