

# WELCOME



## SCOPE OF SERVICES

### 20 YEARS OF EXPERIENCE AND PRACTICAL RESULTS

ANKO RAMS-Engineering is a rail consultancy providing services for Reliability, Maintainability, Availability and Safety (RAMS) as well as Life Cycle Costs (LCC) for the railway industry. We provides tailored solutions for rail operators, manufacturers and suppliers. It can be applied to rail vehicles, sub-systems and rail infrastructure.

## ABOUT US

### EXCELLENCE AND PROFESSIONALISM

Services require technical knowledge of vehicles with all their subsystems and functions. Our market competencies are based on more than 20 years of experience working on global rail projects. Our market advantage is therefore that we are specially trained for the railways and have practiced all processes, methods and procedures through our own long-term activity ("the methodology cannot be the goal").

## CONTACT

Phone: +49 (9131) 1256992

Email: [ankorams@outlook.com](mailto:ankorams@outlook.com)

Web: <https://www.anko-rams.com>

---

Dipl.-Ing. (TU) Andreas Kohn  
Theodor-von-Zahn-Str. 25  
91052 Erlangen

# SAFETY



## FUNCTIONAL SAFETY

Analysis of safety related functions, Technical Safety Report ...



## SAFETY MANAGEMENT

Safety assurance strategies, Safety Plan, Hazard Log, Supplier Management ...



## PROCEDURES & METHODS

FMECA, FTA, SIRF (2020), Hazard Analysis, Risk graph, Safety Case to EN 50129 ...

## SAFETY ABOVE ALL

Rail manufacturers and suppliers are obliged to demonstrate the safety of their vehicles and sub-systems. Besides technical safety, further aspects such as operational safety must be considered to ensure overall safety. The focus is on functional safety. This also includes being able to apply the rail-specific series of standards EN 5012x as well as methods and procedures in a needs-oriented and goal-oriented manner.

## CONTACT

Phone: +49 (9131) 1256992

Email: [ankorams@outlook.com](mailto:ankorams@outlook.com)

Web: <https://www.anko-rams.com>

---

Dipl.-Ing. (TU) Andreas Kohn  
Theodor-von-Zahn-Str. 25  
91052 Erlangen



# RELIABILITY



## (SERVICE-) RELIABILITY

(Service)-Reliability of vehicles,  
Failure categories, Failure  
scenario planning ...



## (SYSTEM-) RELIABILITY

Reliability Predictions, Supplier  
selection, Tender support,  
RAM-Plan ...



## PROCEDURES & METHODS

FMECA, Fault Tree Analysis  
(FTA), (PM)/CM-Analysis ...

## IMPROVING

Disruption to rail services incur delays and can lead to penalty payments or fines for poor (Service)-Reliability which increasingly lead to strict contracts. On the other hand, reliability requirements that cannot be met are specified ("50 years mean distance between failure cannot be a goal"). Reliability requirements from experienced rail operators are often challenging, so that manufacturers have to carry out corresponding reliability analyses for reliability critical systems in order not to take commercial risks.

## CONTACT

Phone: +49 (9131) 1256992  
Email: [ankorams@outlook.com](mailto:ankorams@outlook.com)  
Web: <https://www.anko-rams.com>

---

Dipl.-Ing. (TU) Andreas Kohn  
Theodor-von-Zahn-Str. 25  
91052 Erlangen

# LCC & MAINTENANCE



## LCC-ANALYSIS

PM/CM-Analysis for systems and vehicles, LCC requirements, Cost cutting ...



## MAINTENANCE SCHEME

Coordination with suppliers and manufacturers, Potential for optimization ...



## MAINTENANCE PLAN

Creation and modification of a vehicle maintenance plan, up to the validation (EN 17023) ...

## OPTIMISING

Maintenance serves to maintain the safety, function, reliability and quality of rail vehicles over their entire service life. Maintenance is an essential cost factor with optimization potential. The maintenance strategy also depends on the technology supplied. For this reason, reliable forecasts of Life Cycle Costs (LCC) must be made when the offer is submitted.

## CONTACT

Phone: +49 (9131) 1256992

Email: [ankorams@outlook.com](mailto:ankorams@outlook.com)

Web: <https://www.anko-rams.com>

---

Dipl.-Ing. (TU) Andreas Kohn  
Theodor-von-Zahn-Str. 25  
91052 Erlangen



# CONSULTING



## STRATEGIC CONSULTING

Problem investigation and strategies, Specialist services, Tailored solutions ...



## INTERNATIONAL CUSTOMER

Management of international tender processes, Communication between participants ...



## CONTRACTUAL-REQUIREMENTS

RAMS requirements and targets, Tender Support, Managing subcontractors ...

## TAILORED SOLUTIONS

We provide consultancy services in the acquisition process, and offer post-contract award consultancy to support successful fleet implementation. Our offer is aimed specifically at international customers (English, Spanish). We provide independent assessments in compliance with global and regional railway safety standards. We are happy to support in communication with authorities, railway operators or the railway industry.

## CONTACT

Phone: +49 (9131) 1256992

Email: [ankorams@outlook.com](mailto:ankorams@outlook.com)

Web: <https://www.anko-rams.com>

---

Dipl.-Ing. (TU) Andreas Kohn  
Theodor-von-Zahn-Str. 25  
91052 Erlangen