

# POSTER SESSION

Teresa Werner & Anne Lehan

## How to best accompany digital transformation?

Paper 317 "Enterprise Architecture Management (EAM) as a fundamental approach for the digital transformation of the German road infrastructure management"

### RESEARCH OBJECTIVE

Our research outlines Enterprise Architecture Management's (EAM) possible future importance, both for research on infrastructure and transport as well as for infrastructure management. This is done by reviewing its main features and demonstrating the need for a structured approach to strategy, data, applications and technology in infrastructure management in order to best deal with the amount of data to be collected, stored, exchanged and analysed in the future.

### ESTABLISHED EAM FRAMEWORKS: COBIT & TOGAF WHAT IS ENTERPRISE ARCHITECTURE MANAGEMENT?

#### COBIT (ISACA 2012)<sup>1</sup>

- Popular IT governance and management framework
- Divides IT tasks into processes and control objectives.
- Primary focus lies on what is to be implemented, rather than how the requirements should be implemented.

#### TOGAF (The Open Group 2018)<sup>2</sup>

- Best-practice framework that aims at facilitating effective enterprise architecture for organizations
- Provides a strategic context for digital capabilities, while providing an integrated strategy which concerns all sectors of an organization.
- Focuses more on how the requirements are to be implemented.

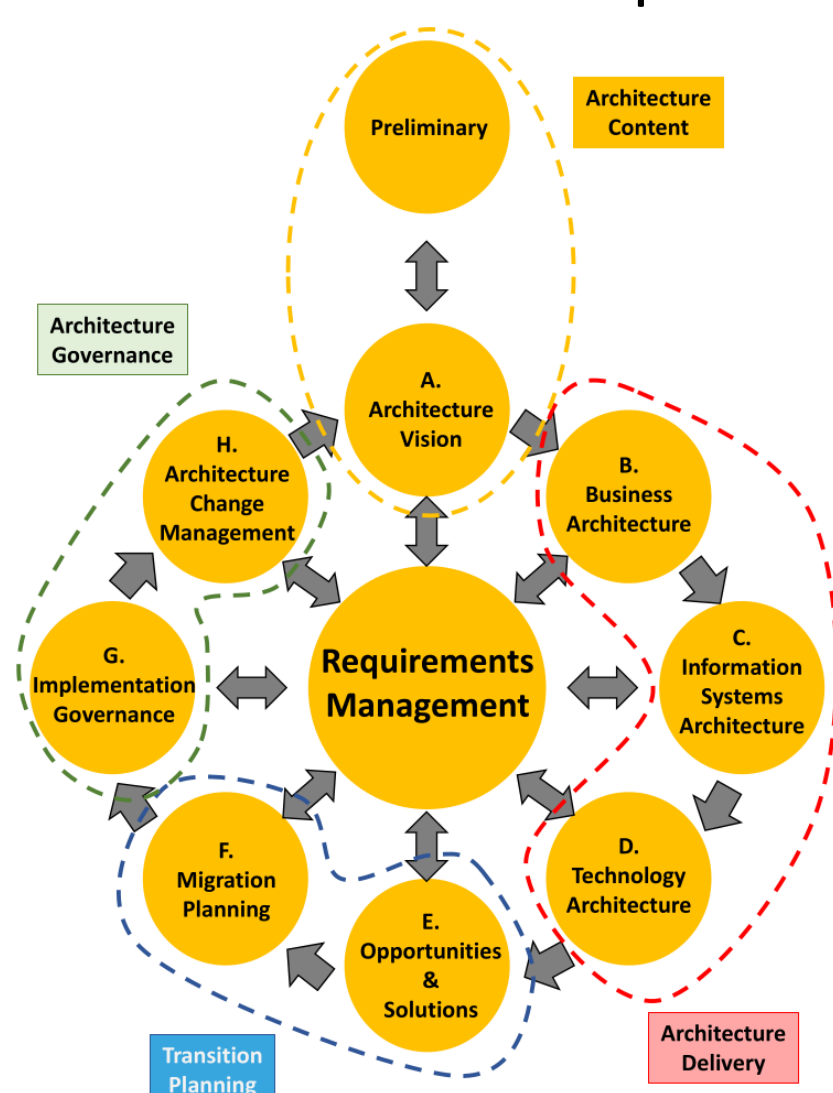


Figure 2. The TOGAF Architecture Development Method.

EAM is a set of tools to plan and control the strategic development of enterprises' IT with regard to its business objectives and tasks. Enterprises are defined in a broad sense as any collection of organizations with a common set of goals.

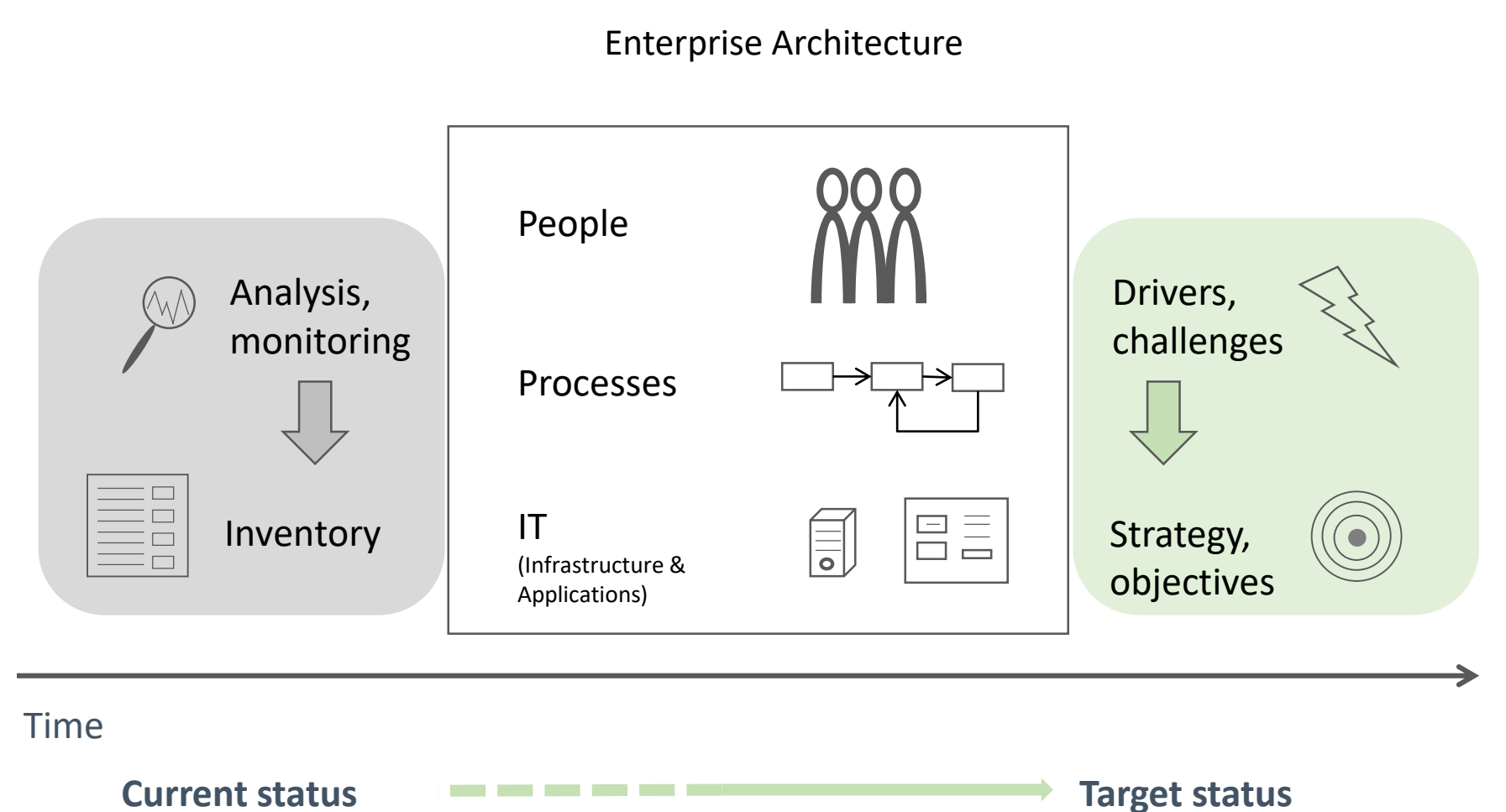


Figure 1. A simplified illustration of Enterprise Architecture and its management.

### EAM AS AN ENABLER OF DIGITAL TRANSFORMATION

- Digital transformation not only requires the adaptation of one's own organization regarding strategy and structure, however, it leads to changes in external factors, actors and requirements, too.
- Since the exchange of information will take on a much more central role than before, it is necessary to shed more light on processes in the overall context and thus build architectures for them.
- Structuring the increasing need for information and the simultaneously increasing demands on data procurement, EAM can provide great added value to the German road infrastructure management.

### BAST'S TAILORED EAM APPROACH TO THE GERMAN ROAD INFRASTRUCTURE MANAGEMENT

**STEP 1** Description of the baseline architecture, more specifically assessment of the current application portfolio. For this purpose, an analysis of all relevant IT applications and projects was carried out.

**STEP 2** Development of the in-house target architecture concerning information systems (applications and data)

**STEP 3** Integration of BAST's architecture development into the superordinate development of IT architecture of the entire road infrastructure management sector in Germany.

1: ISACA, 2012. COBIT 5. A Business Framework for the Governance and Management of Enterprise IT, Rolling Meadows.

2: The Open Group, 2018. The TOGAF® Standard, Version 9.2, <https://pubs.opengroup.org/architecture/togaf9-doc/arch/>.

Federal Highway Research Institute **bast**

**Teresa Werner**

Division Digitalisation of the road sector

Brüderstraße 53  
51427 Bergisch Gladbach  
Germany

Phone + 49 (0)2204 43 1410  
werner@bast.de

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