# THE DURAARK APPROACH

SOFTWARE ARCHITECTURE

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- **Introduction**

- **Workbench Live Demonstration**

- **Software Architecture**

- **Component Presentation**

- **How can <u>you</u> as a stakeholder use the system?**

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- The DURAARK approach consists of a set of components in the context of long-time archival of building data

- A Graphical User Interface (GUI) is provided that connects the functionality aspects into "workflows"

- Currently provided workflows:
    - Submission Information Package (SIP) Generation
    - Search & Retrieval of SIPs
    - Geometric Enrichment

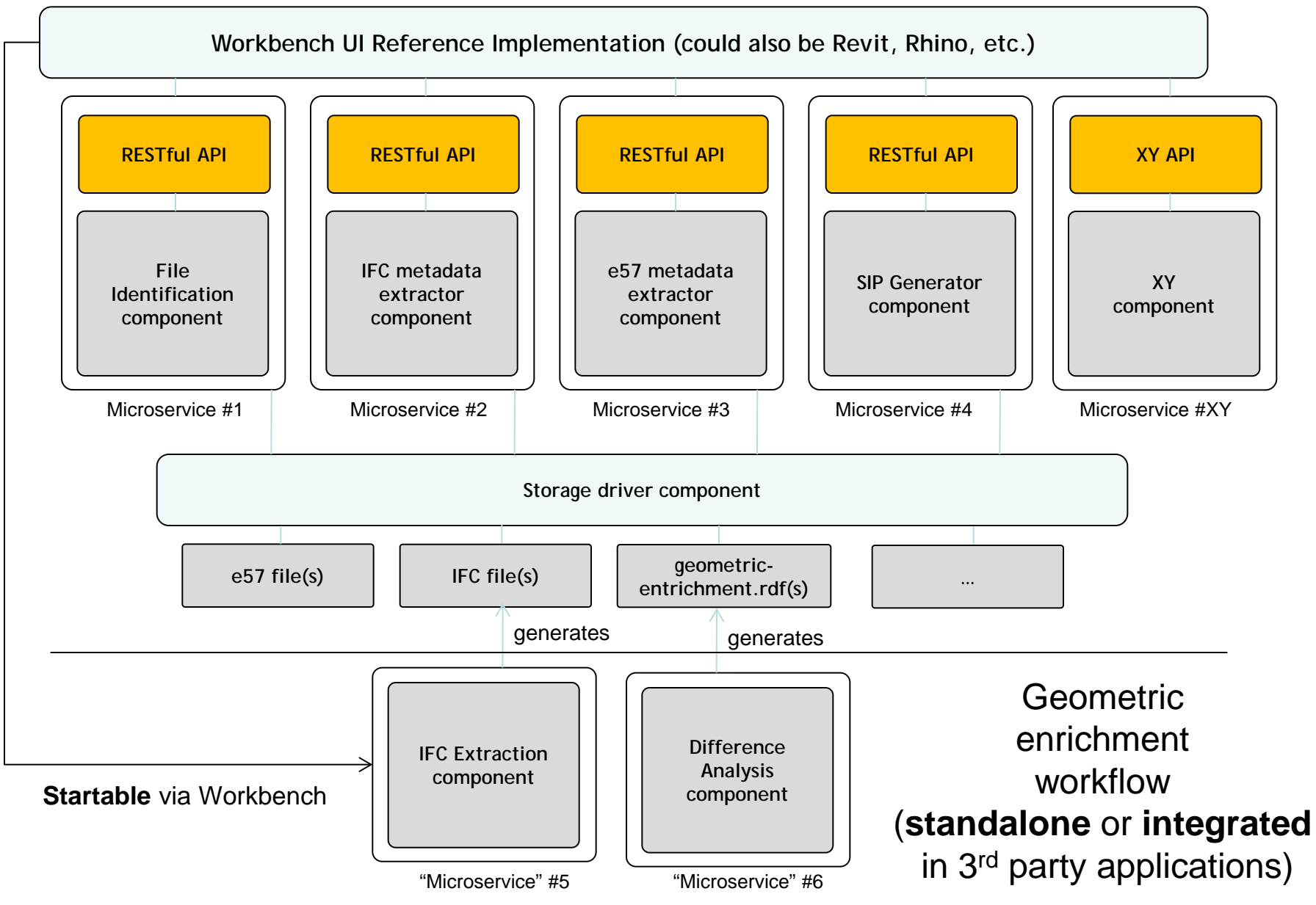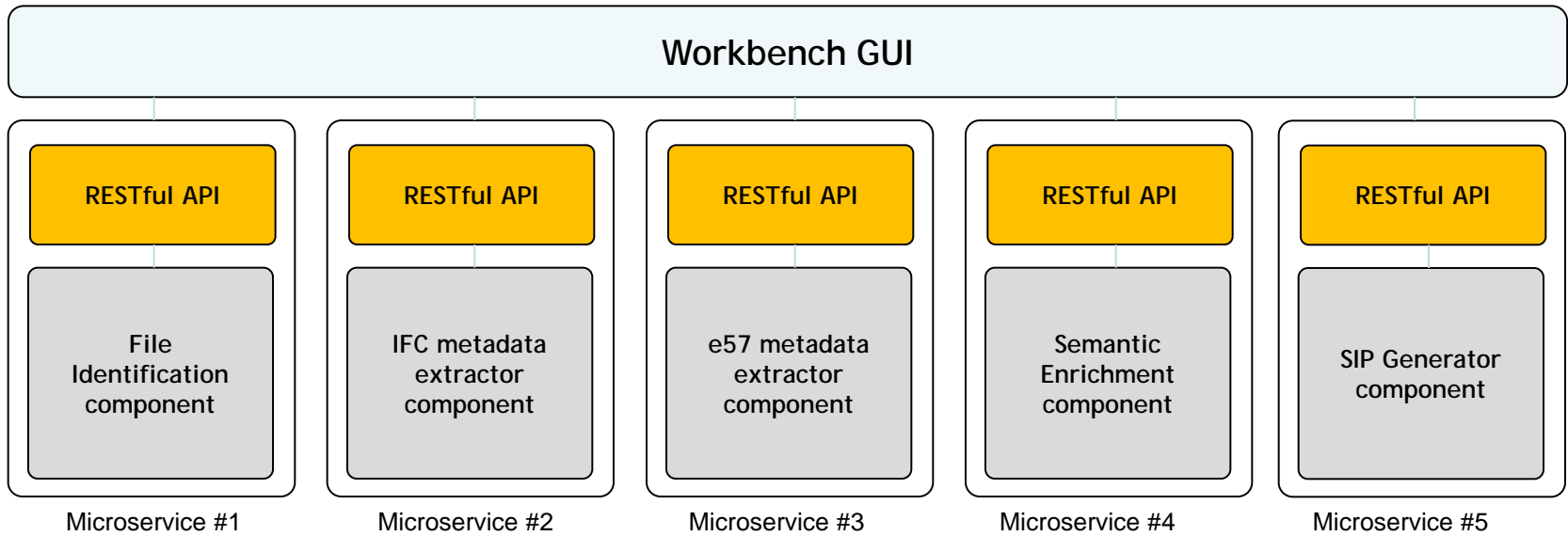- DURAARK follows a modular approach that allows to extend the system with tailored functionality

## Introduction

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# http://workbench.duraark.eu

SIP generation workflow

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A peek at the individual components…
  that make up a single integrated workflow

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# General Software Architecture

**Workbench GUI**

| RESTful API | RESTful API | RESTful API | RESTful API | RESTful API |
|---|---|---|---|---|
| File Identification component | IFC metadata extractor component | e57 metadata extractor component | Semantic Enrichment component | SIP Generator component |
| Microservice #1 | Microservice #2 | Microservice #3 | Microservice #4 | Microservice #5 |

# SIP Generation Workflow Components
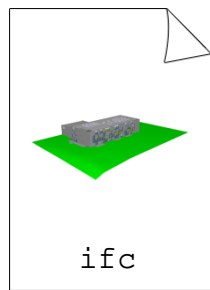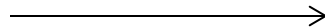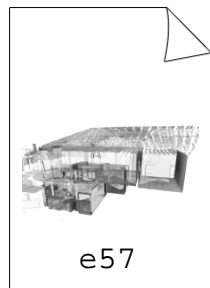
# IFC and E57 metadata extraction

Utility libraries that extract metadata for archival purposes. Note that this is related to our work on the **buildm metadata schema** for building data archival.
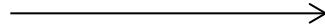


```
creation date
project name
length unit
floor count
average room volume
...
```

```
number of scans
sensor vendor
sensor model
temperature
relative humidity
...
```

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**Different use case scenarios for users, contributors, research groups:**

Convenience

Flexibility

•If you like the workflows provided in the Workbench UI, **setup and use** it in our company.

•You like the functionality provided by the DURAARK system and want to extend your current workflow with parts of it. You can install a set of the **provided services** and **integrate them into our existing workflow** via the exposed and documented APIs.

•You like a **specific component** of the DURAARK system and have a great idea on how to extend it. You can download the source code and **extend the component with your knowledge**. Maybe you are willing to contribute back the changes to the openly available system.

•You have a better idea on how to create a GUI for your workflow and you do not want to use the Workbench UI. You can download a set of the provided services, add a new one and **build a better user interface to the components**. Afterwards you can host the system on your company servers and **provide it as a (paid) service**.

## How can <u>you</u> as a stakeholder use the system?

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# https://github.com/DURAARK

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# Discussion