



City of Munich
Department of Technology
and Digitalization

Automating Citizen Services in the City of Munich

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Oktoberfest
MÜNCHEN

What are the
challenges in
Munich?



Munich is the biggest municipal administration in Germany

- 1.5+ million citizens
- 43,000+ employees, 1.100 people in IT
- 8 billion € budget, 500 million € for IT
- 15 departments and 6 service provider

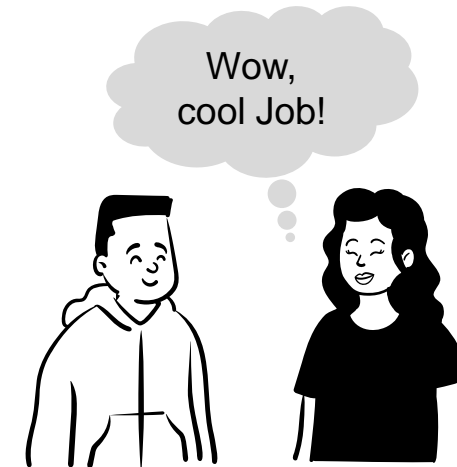
Wide range of tasks and highly specialized

Departments

Department of Construction	Health Department	IT Department
Department of Cultural Affairs	Department of Mobility	Department of Education and Sports
Department for Climate and Environment	Department of Social Services	...

Service providers

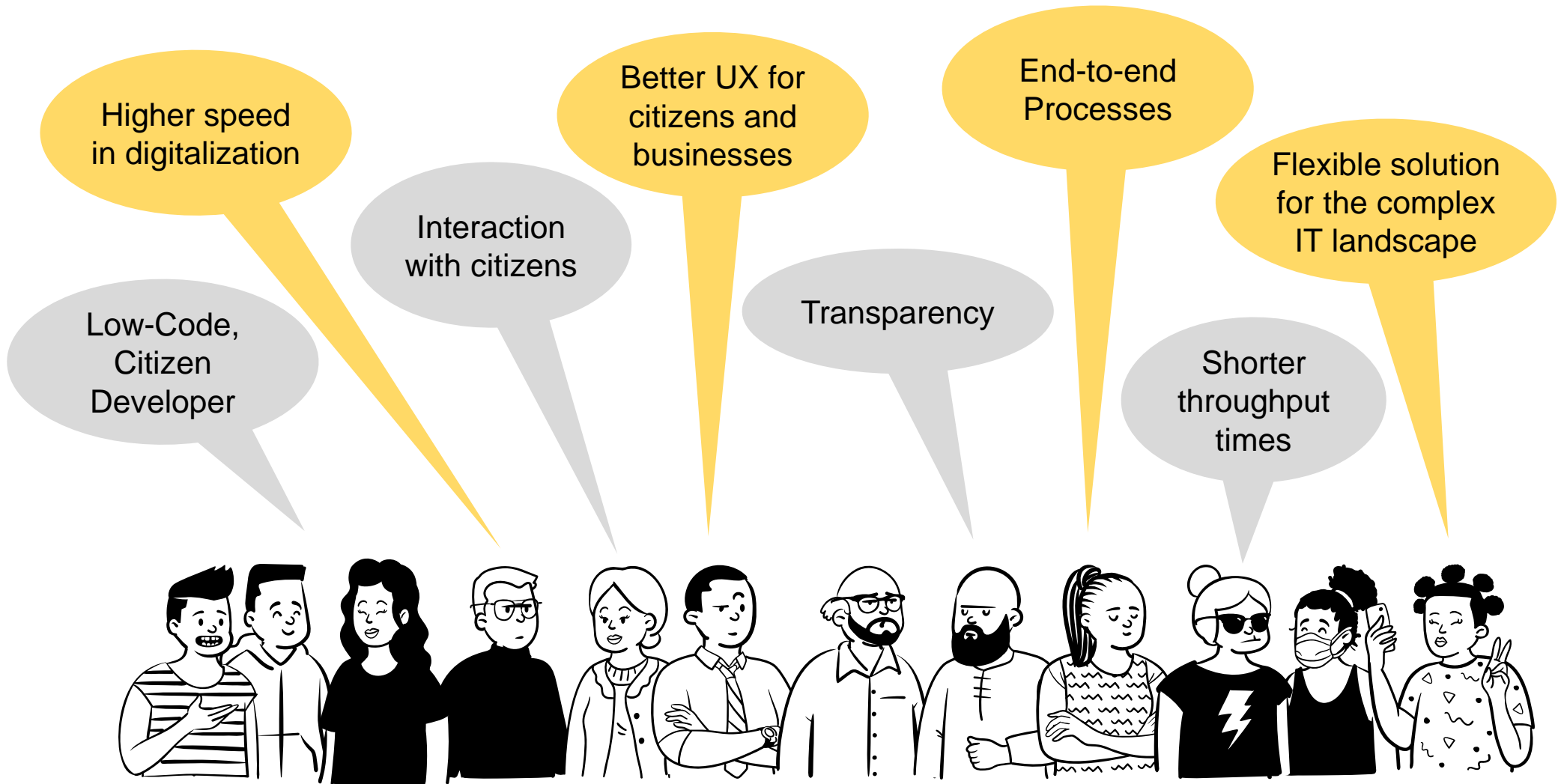
Waste Management	IT Service Provider	...
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Heterogeneous and complex IT landscape



Expectations are very high





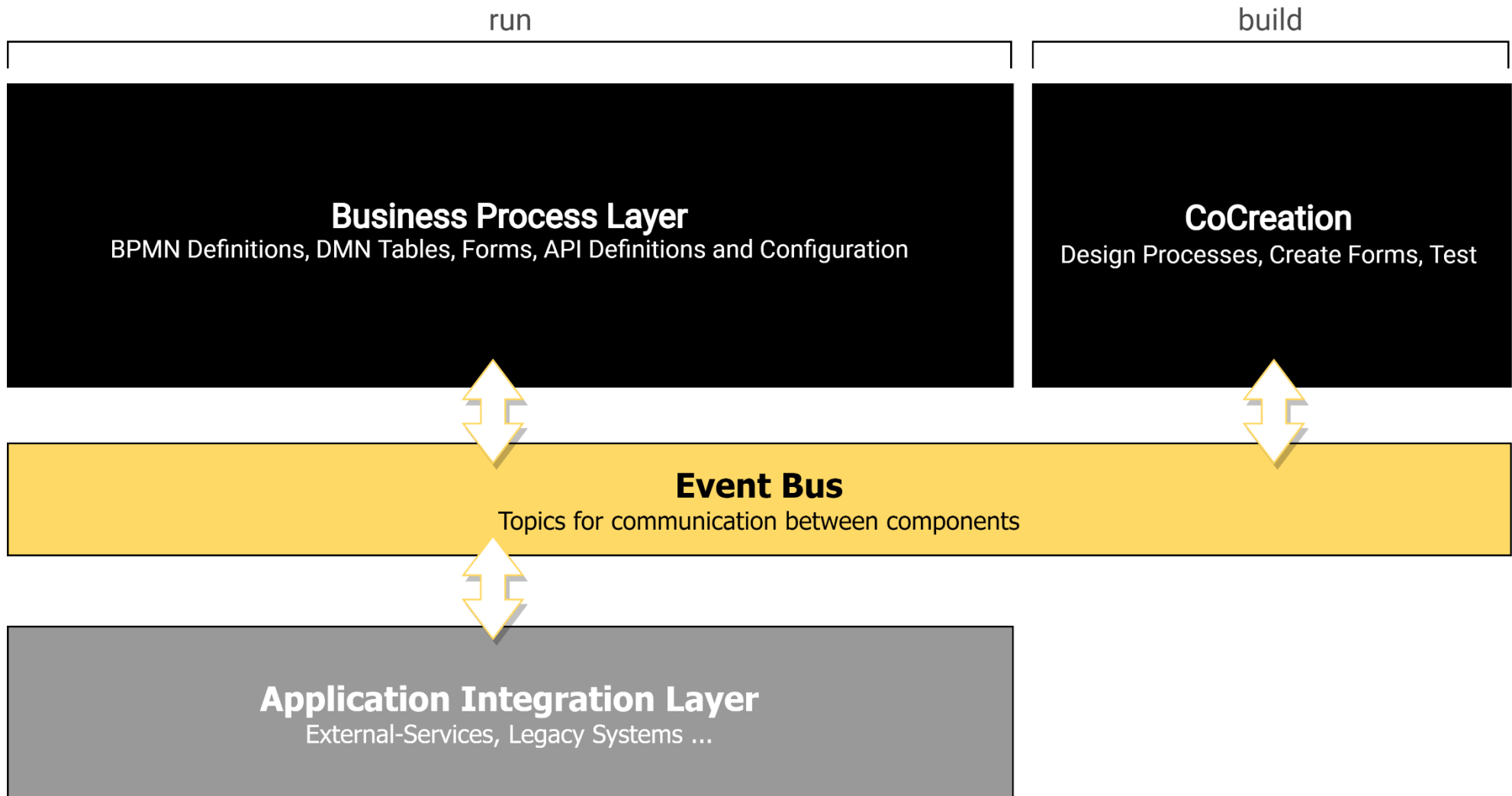
How do we achieve
high flexibility and
a **great UX** with a
Low-Code Platform?



Digital Workflow Platform

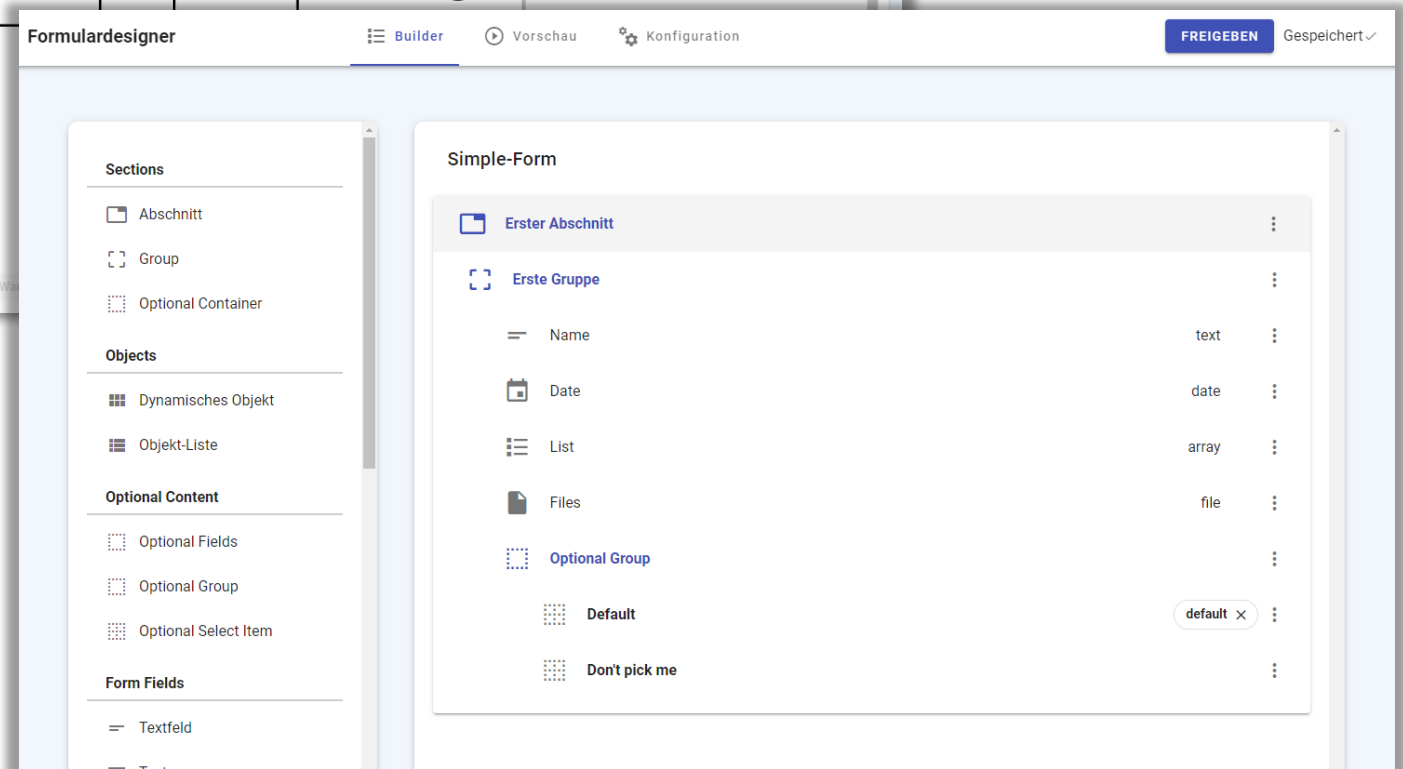
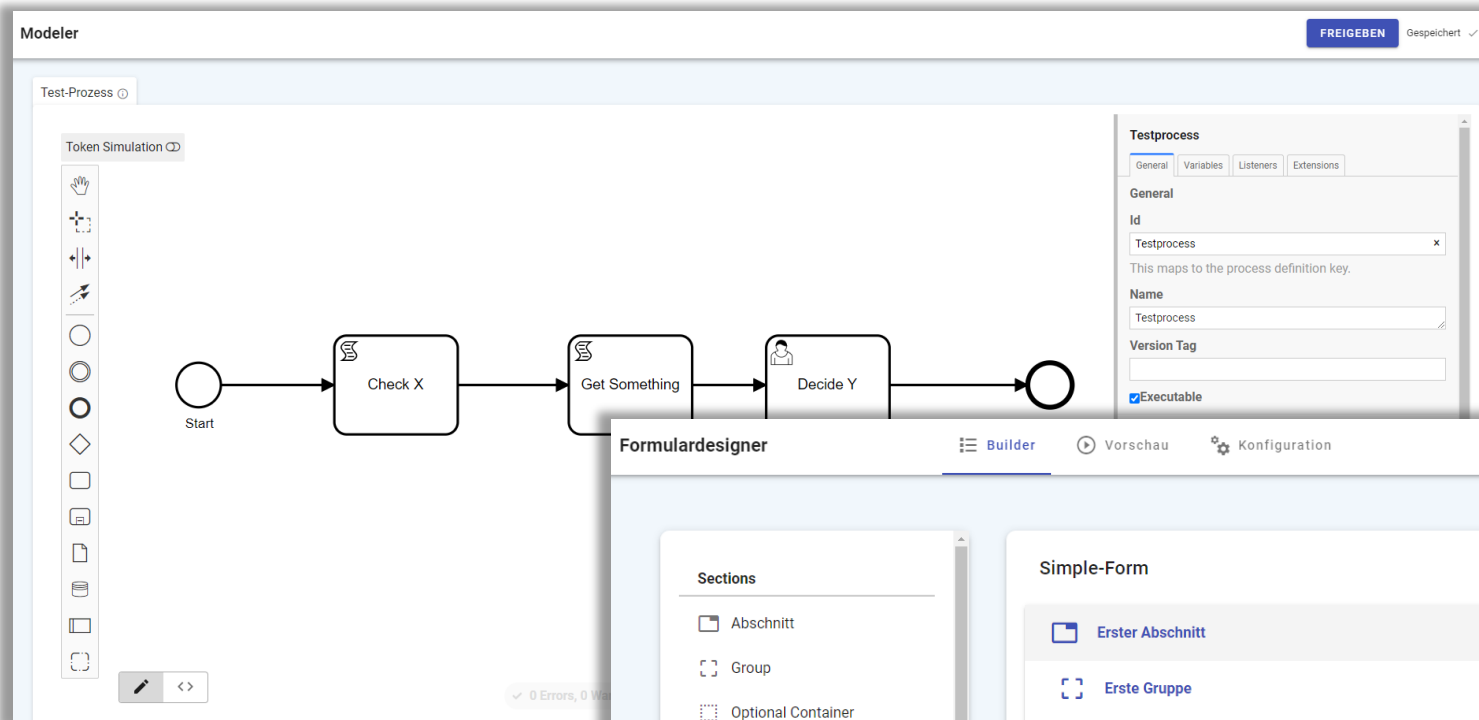
From Low-Code to Pro-Code

DigiWF Architecture



DigiWF CoCreation

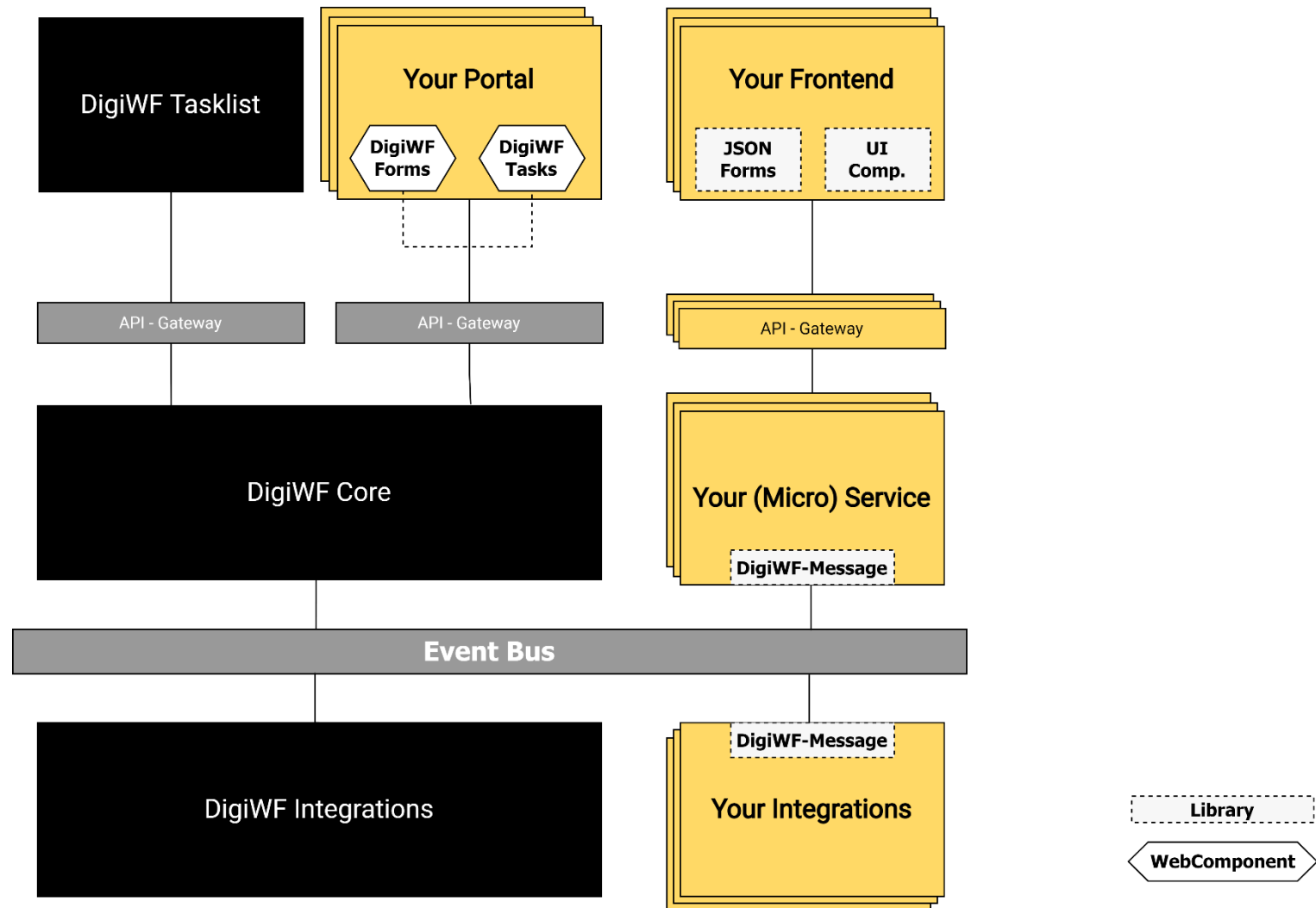
BPMN
DMN



Forms
(JSON Schema)

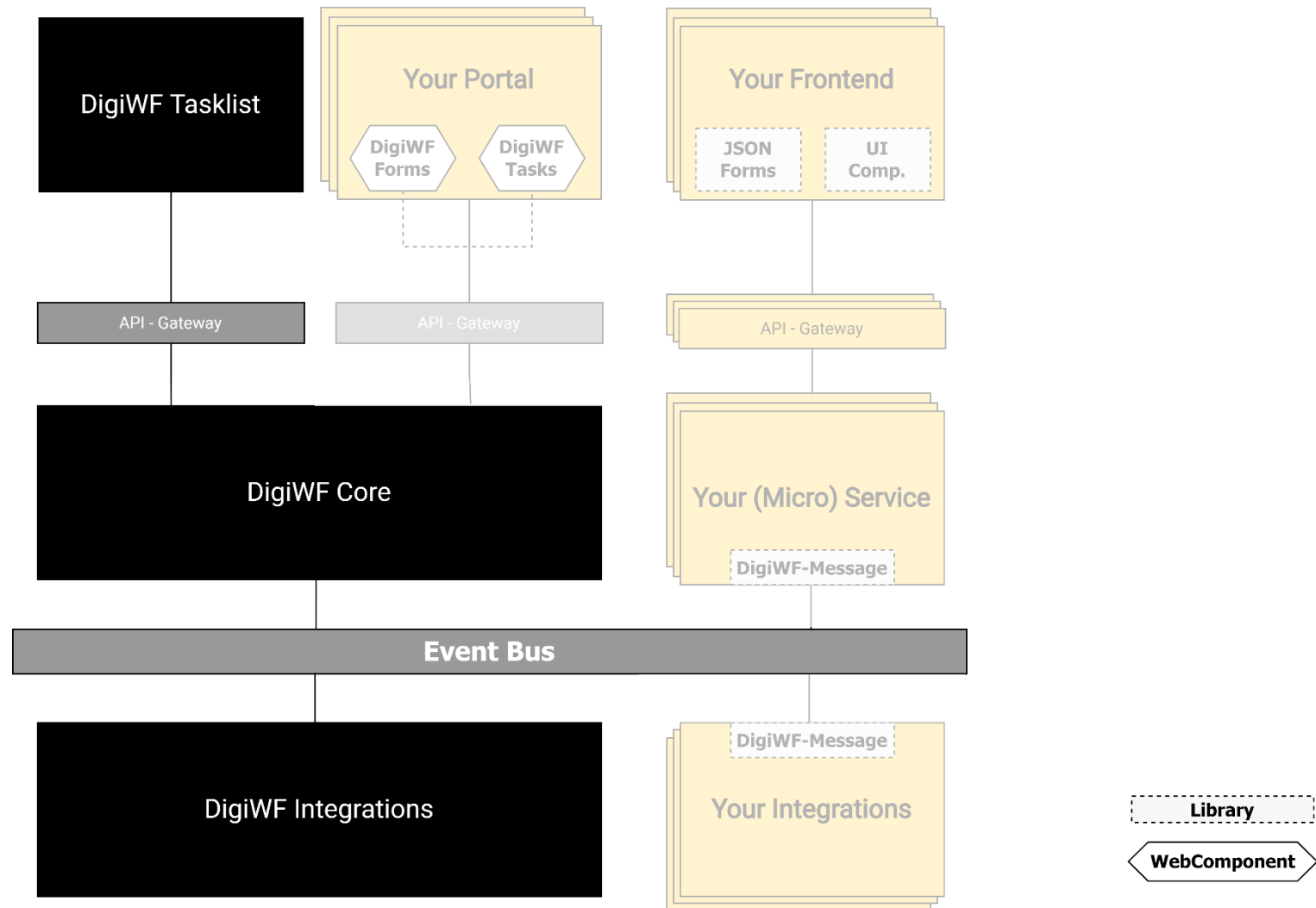
From Simple and Standardized to Complex and Custom

Low-Code ← → Pro-Code

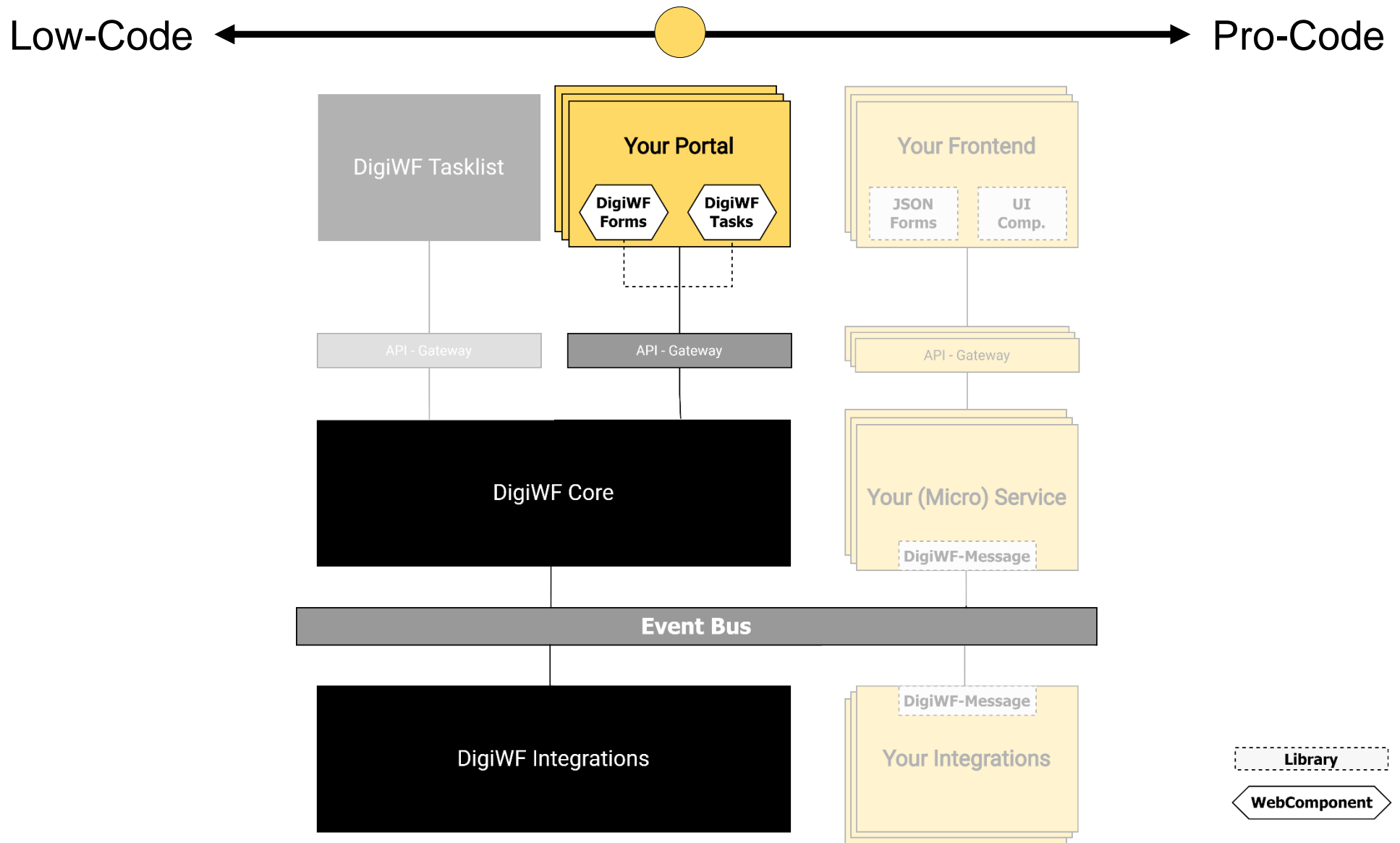


Pure Low-Code

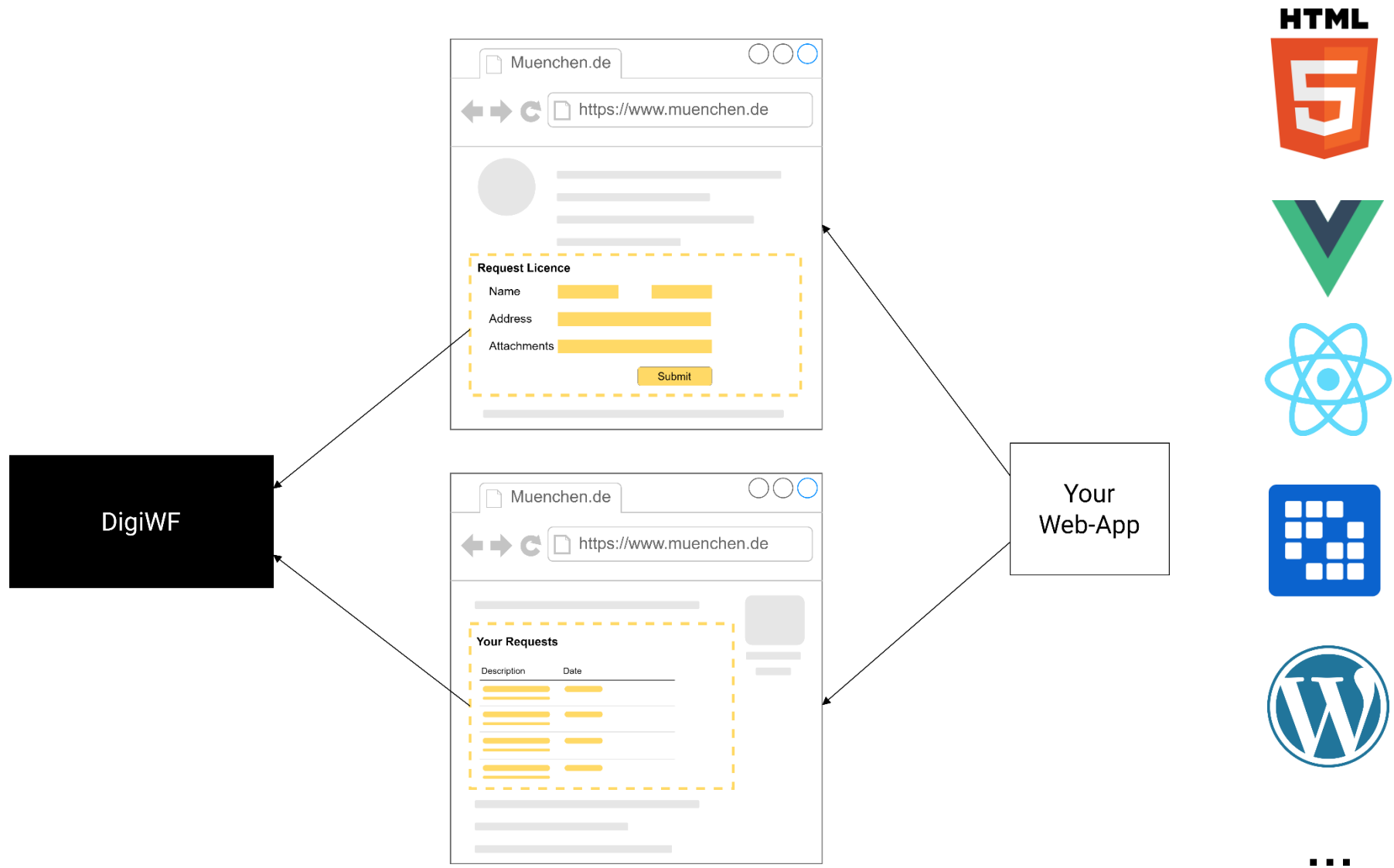
Low-Code ← ● → Pro-Code



Bring your own UI



Micro Frontends with WebComponents

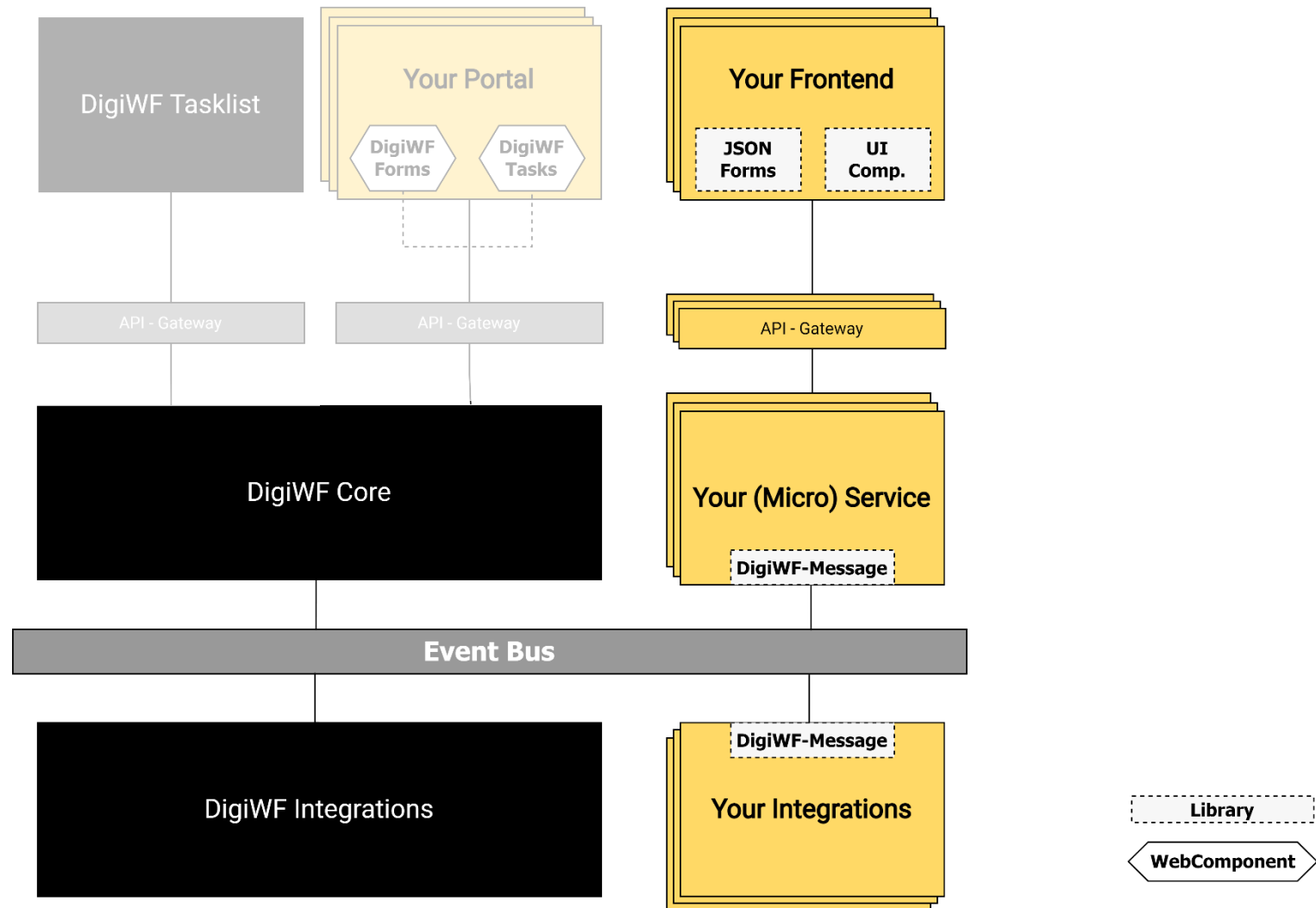


Integrate your own Application

Low-Code



Pro-Code



Provide Basic Functions and Templates

Simple-Process ⓘ

Token Simulation ⓘ

```
graph LR; Start(( )) --> Generate[Generate Document]; Generate --> Send[Send Mail]; Send --> End(( ))
```

0 Errors, 0 Warnings

BPMN.IO

```
1 {
2   "name": "Send E-Mail",
3   "id": "de.muenchen.digitalwf.templates.send-email",
4   "appliesTo": [
5     "bpmn:CallActivity"
6   ],
7   "properties": [
8     {
9       "label": "Template",
10      "type": "String",
11      "editable": false,
12      "value": "StreamingTemplateV02",
13      "binding": {
14        "type": "property",
15        "name": "calledElement"
16      }
17    },
18    {
19      "label": "Receiver",
20      "type": "String",
21      "value": "",
22      "binding": {
23        "type": "camunda:in",
24        "expression": true,
25        "name": "receivers",
26        "target": "receivers"
27      },
28      "constraints": {
29        "notEmpty": true
30      }
31    },
32    {
33      "label": "Receiver (CC)",
34      "type": "String",
35      "value": "",
36      "binding": {
37        "type": "camunda:in",
38        "expression": true,
39        "name": "receiversCc",
40        "target": "receiversCc"
41      }
42    },
43    {
44      "label": "Receiver (BCC)",
45      "type": "String",
46      "value": "",
47      "binding": {
48        "type": "camunda:in",
49        "expression": true,
50        "name": "receiversBcc",
51        "target": "receiversBcc"
52      }
53    },
54    {
55      "label": "Subject",
56      "type": "String",
57      "value": "Greetings",
58      "binding": {
59        "type": "camunda:in",
60        "expression": true,
61        "name": "subject",
62        "target": "subject"
63      }
64    },
65    {
66      "label": "Body",
67      "type": "String",
68      "value": "Have fun at the CamundaCon",
69      "binding": {
70        "type": "camunda:in",
71        "expression": true,
72        "name": "body",
73        "target": "body"
74      }
75    },
76    {
77      "label": "Reply-To Address",
78      "type": "String",
79      "value": "",
80      "binding": {
81        "type": "camunda:in",
82        "expression": true,
83        "name": "replyToAddress",
84        "target": "replyToAddress"
85      }
86    },
87    {
88      "label": "Attachment Paths (S3)",
89      "type": "String",
90      "value": "Array of presigned urls created",
91      "binding": {
92        "type": "camunda:in",
93        "expression": true,
94        "name": "attachmentPaths",
95        "target": "attachmentPaths"
96      }
97    }
98  ]
99 }
```

Receiver

rene.zarwel@muenchen.de x

Receiver (CC)

Receiver (BCC)

Subject

Greetings x

Body

Have fun at the CamundaCon x

Reply-To Address

Attachment Paths (S3)

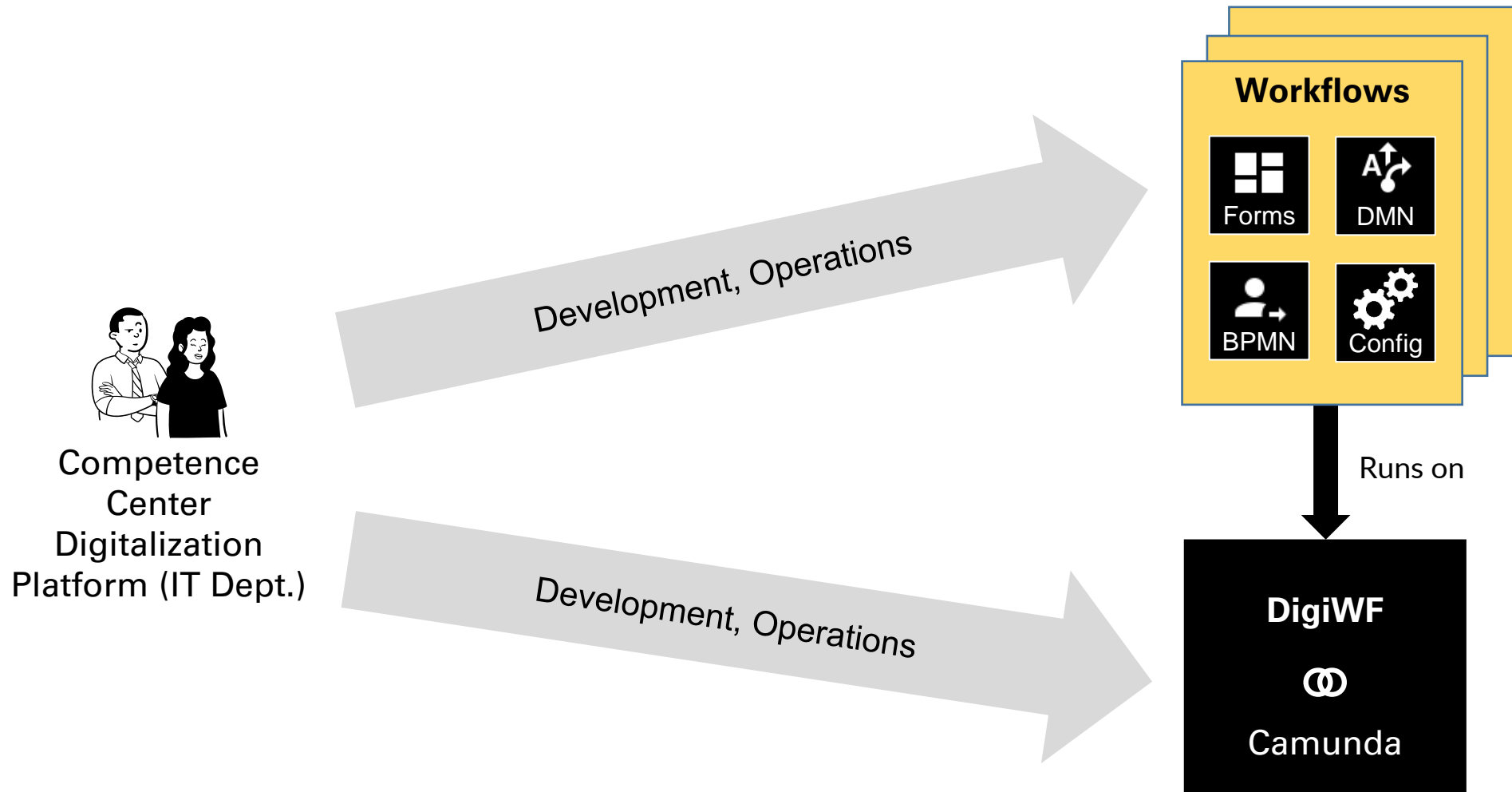
Array of presigned urls created

For us, **Low-Code means that developers provide functionality with standard technology that can be easily reused.**

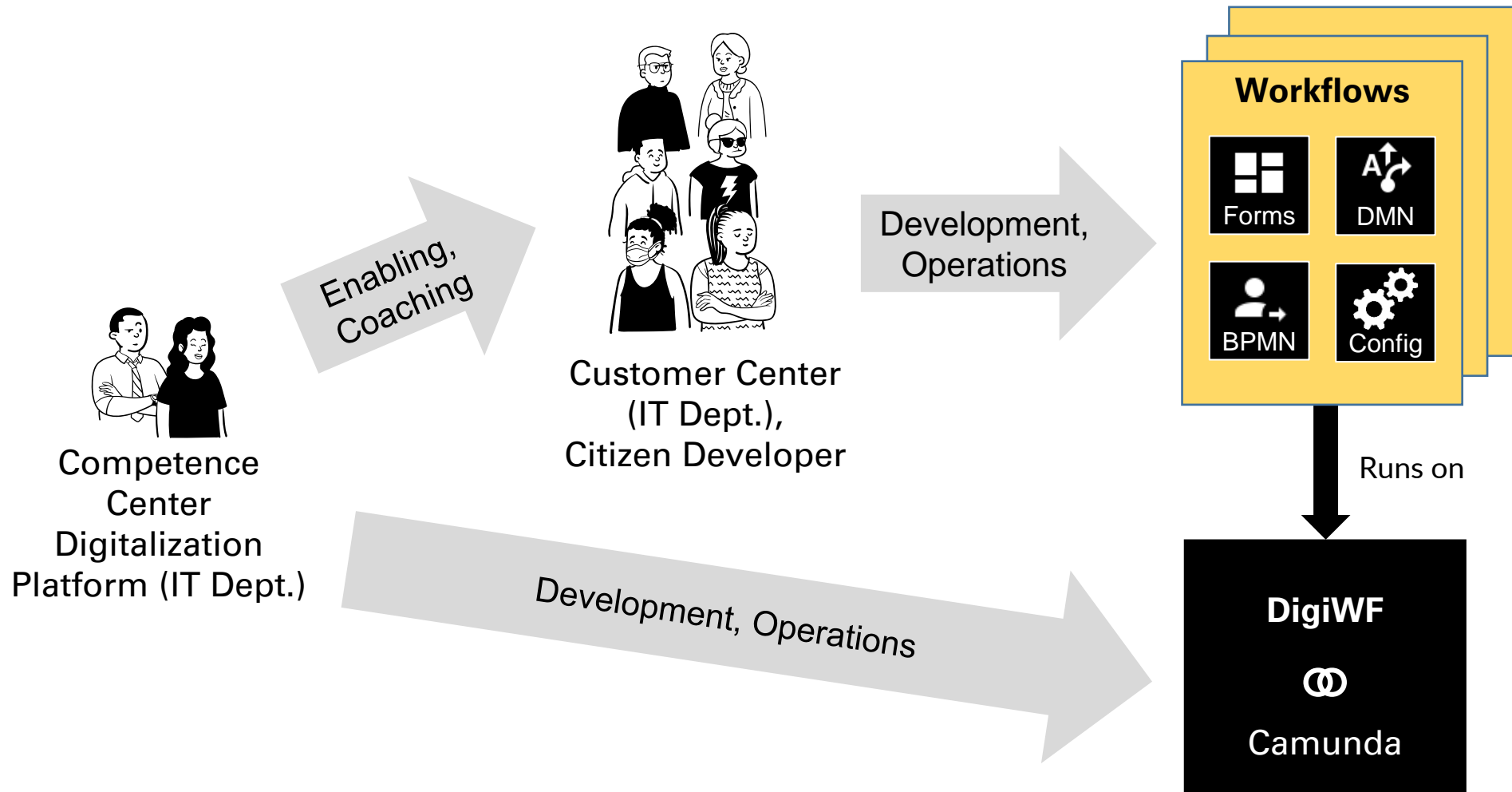


How do we organize ourselves?

A Competence Center to boost digital transformation?



Scalable organization to boost digital transformation





How is it going so far?

Successes and starting difficulties

- We started with HR processes
- First successful citizen development
- 1 Project stopped

Key learnings after three years of working

- Don't build apps with BPMN
- Process automation is much more complex than building custom apps
- Low-Code still requires software principles
- Decouple interfaces from processes
- Introduce a Center of Excellence is crucial

What's coming next..

- Interaction with citizens
- Low-Code for business data
- Robotic Process Automation
- Integration of AI

Public Money

Public Code

Made with  in Munich

<https://digiwf.oss.muenchen.de/>



<https://github.com/it-at-m/digiwf-core>

- Next year Oktoberfest?



Thanks for your attention!



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Software Architect
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