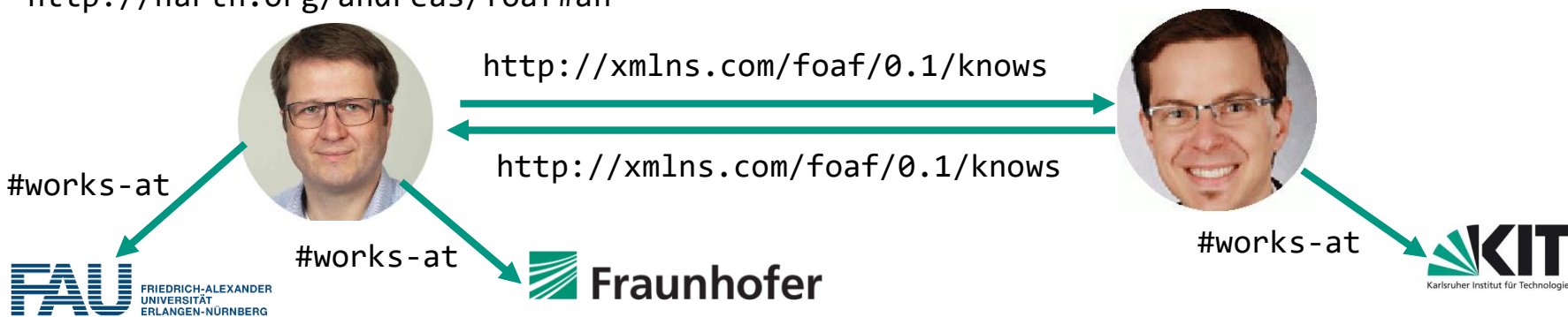# Tutorial on Distributed Knowledge Graphs for the Web of Things, Part VI: IoT Platforms

Tobias Käfer (KIT) and Andreas Harth (FAU)
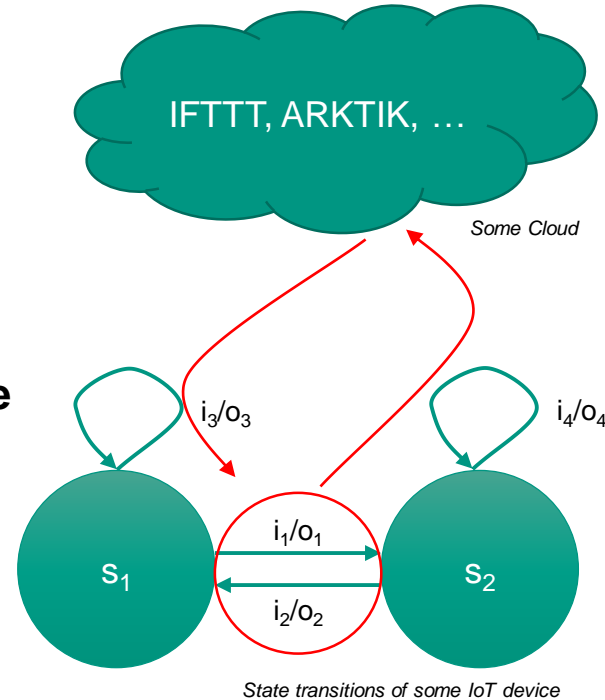**Tutorial @ 10th International Conference on the Internet of Things (IoT), 2020**

```
http://harth.org/andreas/foaf#ah
```

http://xmlns.com/foaf/0.1/knows

http://xmlns.com/foaf/0.1/knows

#works-at

#works-at

#works-at

http://go.wiwi.kit.edu/togwot

IFTTT [1] and ARKTIK [2] (&Co.)

- IFTTT "if-this-then-that"
  - Automate tasks on the web
    - Eg. "If I tweet, post that also on Facebook"
- Samsung ARKTIK rules
  - Automate on the Internet of Things
    - Eg. "If the temperature of the room is **more than 72°F**, then **turn on** my bedroom's light and **set the color** to red" (sic!)
- …Centralised Platforms
- Event-Action rules
- Events = Notifications from devices/APIs

[1] https://ifttt.com/maker_webhooks
[2] https://developer.artik.cloud/documentation/data-management/develop-rules-for-devices.html

IFTTT, ARKTIK, …

Some Cloud

i_3/o_3

i_4/o_4

s_1

i_1/o_1

i_2/o_2

s_2

State transitions of some IoT device

Turn on the Light using IFTTT Maker Channel

if ▶ thenthat

Maker event "light_state_change"

- Create an account, register key
- Register event type, eg. light_state_change
- Whenever there is a change:
  - POST to
    `https://maker.ifttt.com/trigger/light_state_change/with/key/{secret_key}`
  - HTTP body (must be JSON, keys have to be named exactly like that):
    ```
    { "value1" : "test",
      "value2" : 0.5 ,
      "value3" : True }
    ```

Adapted from http://www.makeuseof.com/tag/ifttt-connect-anything-maker-channel/

M Complete Action Fields step 6 of 7

Make a web request

M URL

http://t2-ambient-relay.lan/relay/1

Surround any text with "<<<" and ">>>" to escape the content

M Method

PUT

The method of the request e.g. GET, POST, DELETE

application/ld+json

Please select

Optional

M Body

```
{ "@id" : "#r",
  "http://example.org/isOn" : true }
```

Surround any text with "<<<" and ">>>" to escape the content

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Turn on the Light using ARKTIK

```
{
 "if": {
  "and": [ {
   "sdid": "sensor123" ,
   "field": "value",
   "operator": "<",
   "operand": 0.5
  } ]
 },
```

```
 "then": [ {
  "action": "httpRequest",
  "parameters": {
   "method": { "value": "PUT" },
   "url": {
    "value":
 "http://t2-ambient-relay.lan/relay/1"
   },
   "body":
    {
 "@id" : "#r",    "http://example.org/isOn" : true
    }
   }
  } ]
}
```

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