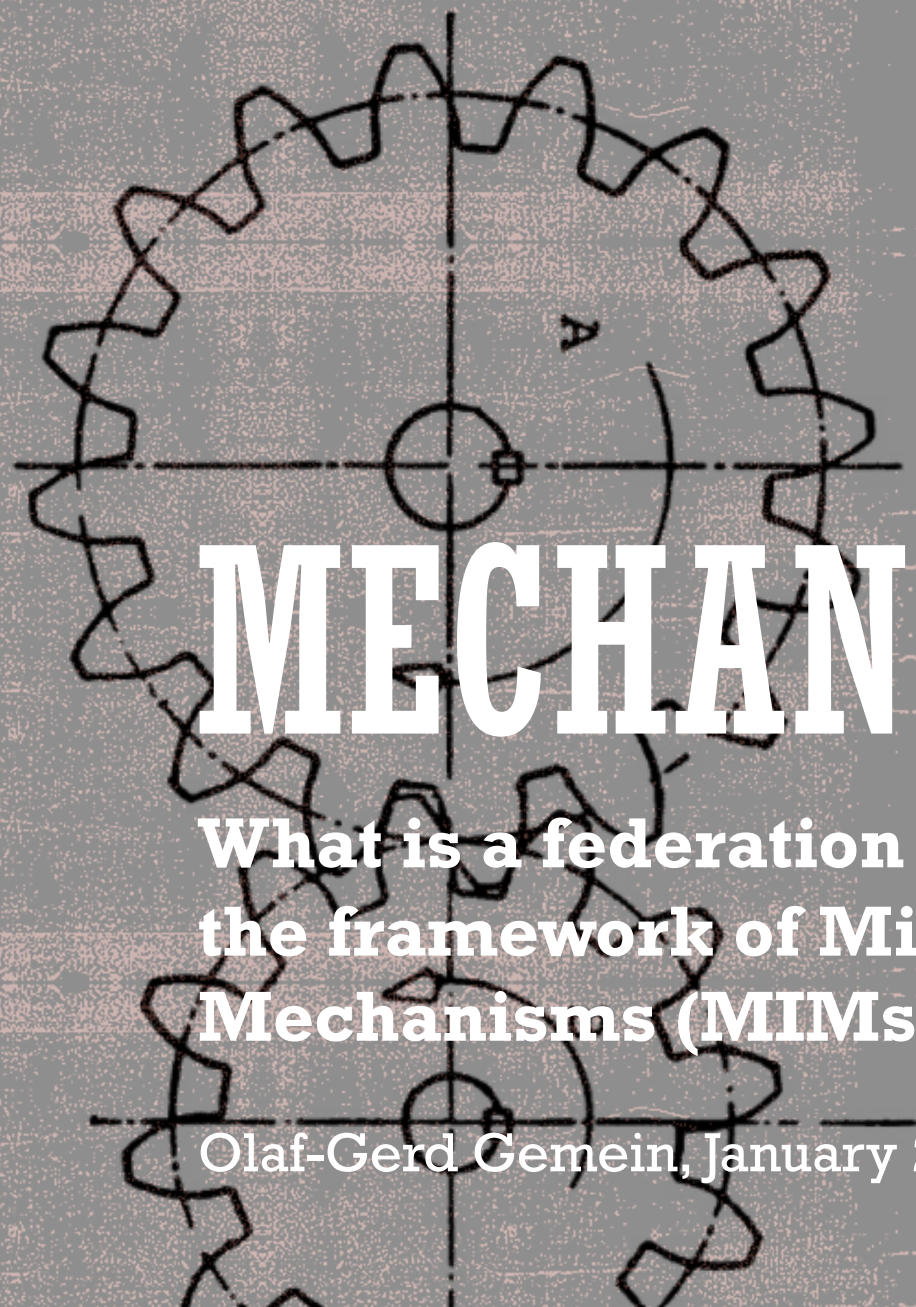
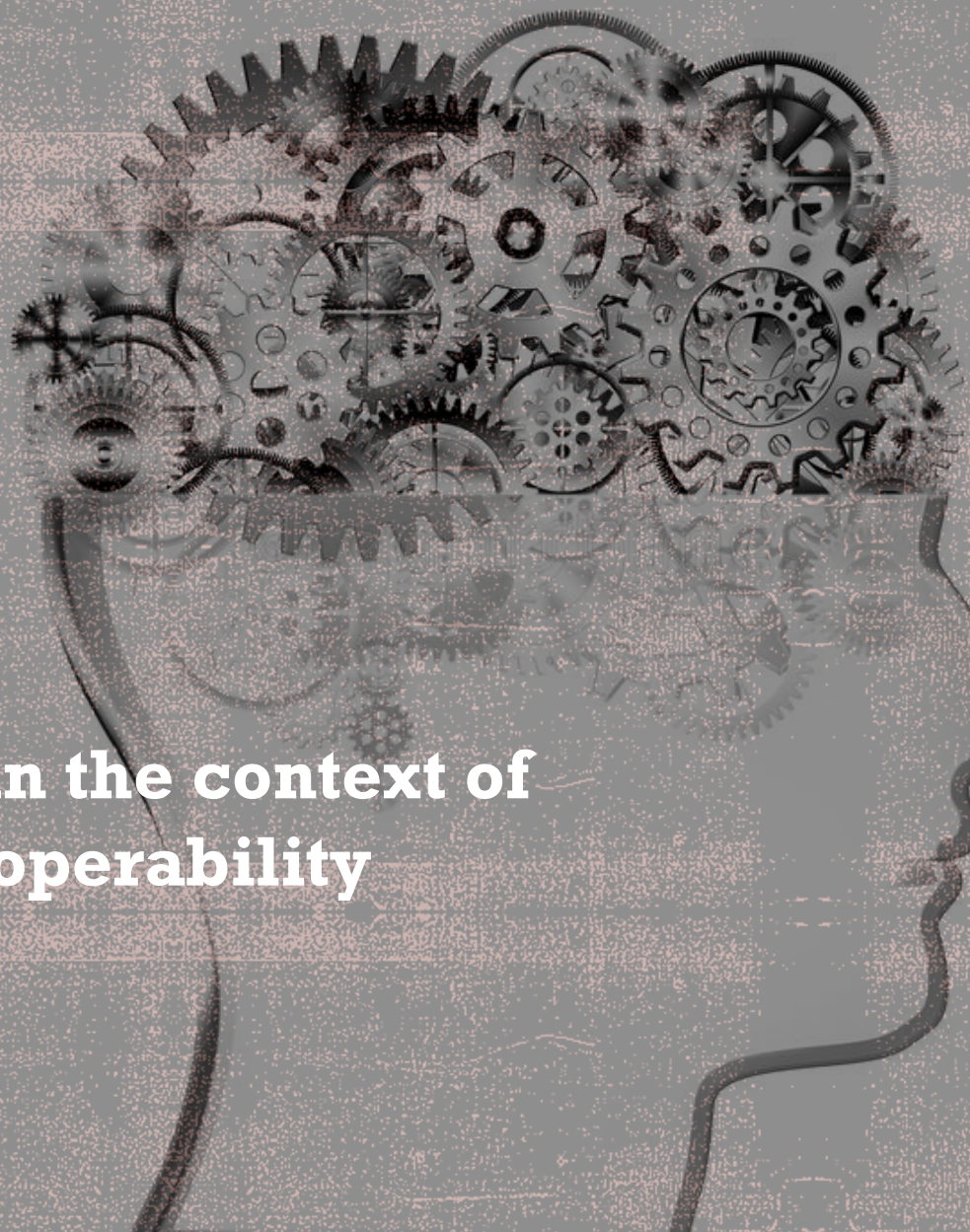
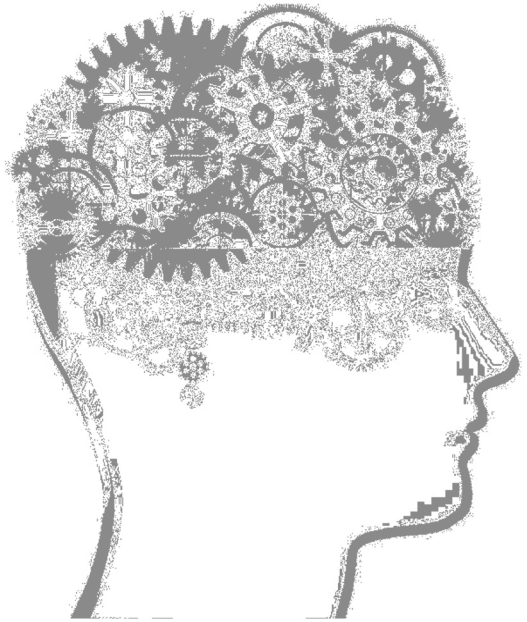




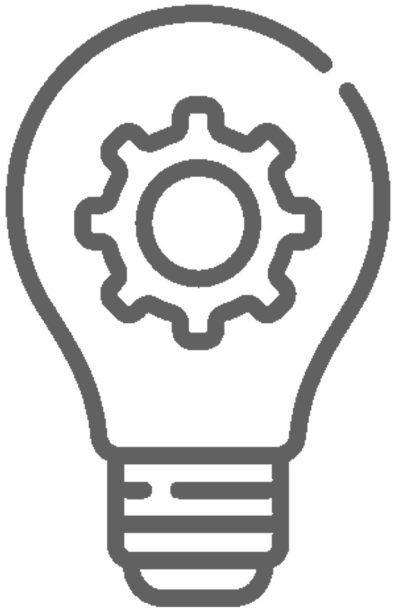
MECHANISM

What is a federation mechanism in the context of the framework of Minimum Interoperability Mechanisms (MIMs) of OASC

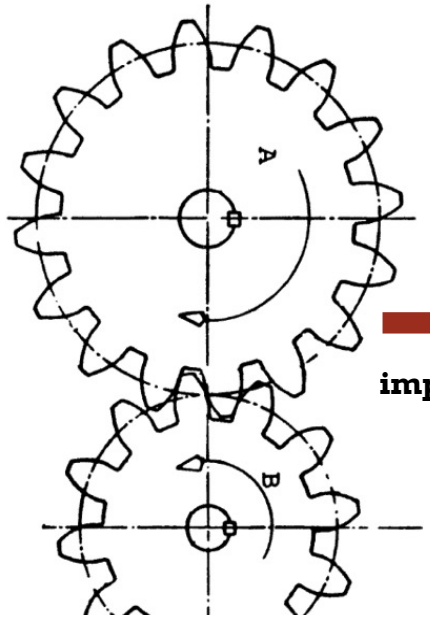
Olaf-Gerd Gemein, January 2023



invent



design



implement

extract_num-
ber_and_incr (destination, source) int
*destination; unsigned char **source; { extract_num-
ber (destination, *source); *source += 2; } #ifndef EXTRACT_MAC-
ROS #undef EXTRACT_NUMBER_AND_INCR #define EXTRACT_NUM-
BER_AND_INCR(dest, src) \ extract_number_and_incr (&dest, &src) #endif /*
not EXTRACT_MACROS */ #endif /* DEBUG */ /* If DEBUG is defined, Regex prints
many voluminous messages about what it is doing (if the variable `debug' is nonzero). If
linked with the main program in `iregex.c', you can enter patterns and strings interactively.
And if linked with the main program in `main.c' and the other test files, you can run the al-
ready-written tests. */ #ifdef DEBUG /* We use standard I/O for debugging. */ #include <stdio.h>
/* It is useful to test things that ``must'' be true when debugging. */ #include <assert.h> static int
debug = 0; #define DEBUG_STATEMENT(e) e #define DEBUG_PRINT1(x) if (debug) printf (x) #define
DEBUG_PRINT2(x1, x2) if (debug) printf (x1, x2) #define DEBUG_PRINT3(x1, x2, x3) if (debug) printf
(x1, x2, x3) #define DEBUG_PRINT4(x1, x2, x3, x4) if (debug) printf (x1, x2, x3, x4) #define DE-
BUG_PRINT_COMPILED_PATTERN(p, s, e)\ if (debug) print_partial_compiled_pattern (s, e) #define DE-
BUG_PRINT_DOUBLE_STRING(w, s1, sz1, s2, sz2) \ if (debug) print_double_string (w, s1, sz1, s2, sz2)
extern void printchar(); /* Print the fastmap in human-readable form. */ void print_fastmap (fastmap)
char *fastmap; { unsigned was_a_range = 0; unsigned i = 0; while (i < (1 << BYTEWIDTH)) { if (fastmap[i++])
{ was_a_range = 0; printchar (i - 1); while (i < (1 << BYTEWIDTH) && fastmap[i]) { was_a_range = 1; i++; } if
(was_a_range) { printf ("-"); printchar (i - 1); } } } putchar ('\n'); } /* Print a compiled pattern string in hu-
man-readable form, starting at the START pointer into it and ending just before the pointer END. */ void
print_partial_compiled_pattern (start, end) unsigned char *start; unsigned char *end; { int mcnt, mcnt2; un-
signed char *p = start; unsigned char *pend = end; if (start == NULL) { printf ("(null)\n"); return; } /* Loop over
pattern commands. */ while (p < pend) { switch ((re_opcode_t) *p++) { case no_op: printf ("/no_op");
break; case exactn: mcnt = *p++; printf ("/exactn/%d", mcnt); do { putchar ('/'); printchar (*p++); }
while (--mcnt); break; case start_memory: mcnt = *p++; printf ("/start_memory/%d/%d", mcnt,
*p++); break; case stop_memory: mcnt = *p++; printf ("/stop_memory/%d/%d", mcnt, *p++);
break; case duplicate: printf ("/duplicate/%d", *p++); break; case anychar: printf ("/anychar");
break; case charset: case charset_not: { register int c; printf ("/charset%s", (re_opcode_t) *(p -
1) == charset_not ? "_not" : ""); assert (p + *p < pend); for (c = 0; c < *p; c++) { unsigned bit;
unsigned char map_byte = p[1 + c]; putchar ('/'); for (bit = 0; bit < BYTEWIDTH; bit++) if
(map_byte & (1 << bit)) printchar (c * BYTEWIDTH + bit); } p += 1 + *p; break; } case beg-
line: printf ("/begline"); break; case endline: printf ("/endline"); break; case on_failure_-
jump: extract_number_and_incr (&mcnt, &p); printf ("/on_failure_jump/0/%d", mcnt);
break; case on_failure_keep_string_jump: extract_number_and_incr (&mcnt, &p); printf
("/on_failure_keep_string_jump/0/%d", mcnt); break; case dummy_failure_jump: ex-
tract_number_and_incr (&mcnt, &p); printf ("/dummy_failure_jump/0/%d", mcnt); break;
case push_dummy_failure: printf ("/push_dummy_failure"); break; case may-
be_pop_jump: extract_number_and_incr (&mcnt, &p); printf
("/maybe_pop_jump/0/%d", mcnt); break; case pop_failure_-
jump: extract_number_and_incr (&mcnt, &p); printf ("/pop_-
failure_jump/0/%d", mcnt); break; case jump_past_alt:
extract_number_and_incr (&mcnt, &p); printf ("/-

Idea Concept Mechanism Code

Federation

... the big change from a centralised data space operated by a single organisation (often a platform) to a federation model : *„a change from one central data powerhouse to democratisation of data“*

Federation

... keeping the so-called „*silos*“, and focus on interoperability means to manage the diversity in decentralized infrastructures

Federation

... acknowledge complexity to be manageable via interoperability mechanism instead pursuing single operaters or central governance models

Federation

... fostering cooperation and exchange in multidomain, cross-country or cross-sector data sources

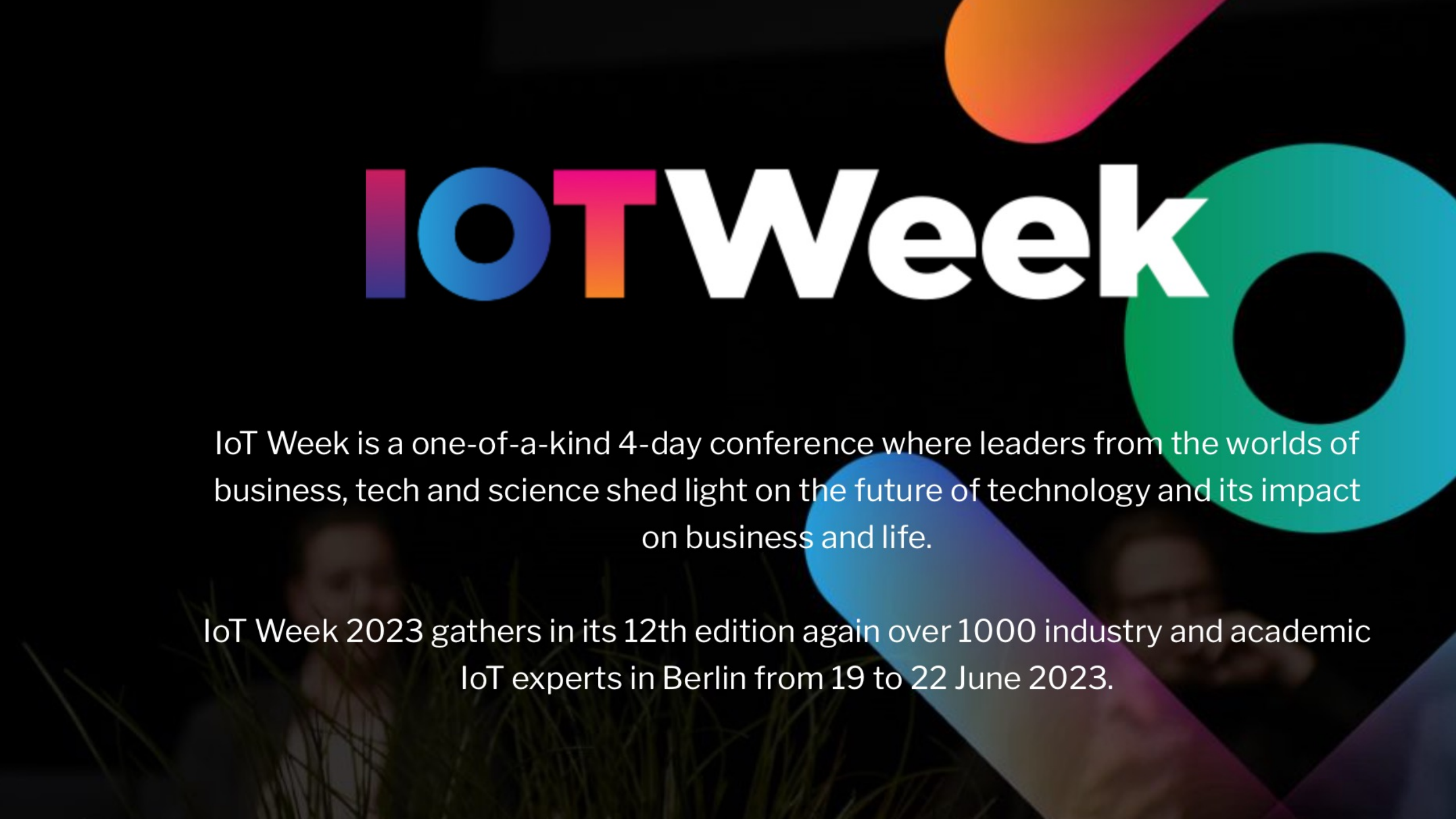
Federation

... also a prerequisite for technology agnostic implementation

Federation

... enabling implementation of data spaces as‘ *decentralised infrastructure for trustworthy data sharing and exchange in data ecosystems based on commonly agreed principles’*

Source: OPEN DEI project



IoT Week is a one-of-a-kind 4-day conference where leaders from the worlds of business, tech and science shed light on the future of technology and its impact on business and life.

IoT Week 2023 gathers in its 12th edition again over 1000 industry and academic IoT experts in Berlin from 19 to 22 June 2023.

See you in Berlin at

IOTWeek

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Challenge

New Data Economy

Mobility **Unlocking the potential of mobility data**	The digital and green transformation of all transport modes relies on an interoperable environment that makes it easier to exchange and access mobility-related data in digital format. The various European mobility data space initiatives aiming to facilitate data access, pooling and sharing for more efficient, safe, sustainable and resilient mobility and transport. It builds on initiatives and applications related to relevant data and will be supported by initiatives to boost interoperability, security, and the availability and provision of data and services across domains, sectors and geographical borders. Your host: Olaf-Gerd Gemein and Kai Hackbarth
Democracy **Digital empowerment of citizens and communities**	Can technology still be a force for democratic renewal and change? A decade ago, pundits proclaimed the dawn of "liberation technology" and described how its tools were empowering a new generation of activists to "expand the horizons of freedom". But today, this optimism is being supplanted by a bleak narrative, as repressive governments use digital tools to increase state control and even disinformation runs rampant in more liberal democracies. Is the democratic promise of technology irretrievably lost? Liberal democracies, ~~led by the United States and Europe~~, are committed to an open, global internet that protects the ability of individuals to produce, send and access content as they see fit. While there are serious differences between the US and Europe when it comes to privacy and the appropriate regulation of big tech, they broadly agree that the principles of "openness, freedom, interoperability, security and resilience" should be the basis for digitisation. And this freedom can and must be used to stabilise democracies and empower people to guard democracies. Your hosts: Olaf-Gerd Gemein and Jascha Rohr (tbn) und Max Thinius

IOTWeek

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Challenge

New Energy

Planet & Environment

Grid and Consumption Flexibility **Next stop - 100% green energy**	The flexibility of the production, transmission, storage and consumption of electricity depends on strong transmission and distribution networks. Your hosts: Olaf-Gerd Gemein and Torge Wendt
Digital Twins **Optimising Data, Shaping Policies, Transforming Lives** **Unleash the potential of real-time data**	Digital twins are poised to transform manufacturing processes and offer new ways to reduce costs, monitor assets, optimize maintenance, reduce downtime and enable the creation of connected products. The digital twin model, although not new, is entering manufacturing and other industries such as the construction industry fast; IoT is one of the drivers. Evolving technology and renewable energy sources have created more efficient processes in the energy sector, by forecasting unseen events or maintenance issues and completing complex simulations in a safe environment. Your hosts: Olaf Gerd Gemein and Raes Lieven (tbn) and Prof. Thomas Walter (tbn)

IOTWeek

Berlin ——— 19-22 June 2023

Challenge

New AI

Planet & Environment

Blue Economy **Meet the basic needs of the planet**	**The Blue Economy began as a project to find 100 of the best nature-inspired technologies that could have a positive impact on the world's economy while meeting people's basic needs - drinking water, food, jobs and habitable shelter - in asustainable way. The idea of the "blue economy" was born at the United Nations Rio+20 Conference on Sustainable Development, held in Rio de Janeiro in June 2012. "The world needs a new economic model. Who would doubt that? We must find a way to meet the basic needs of the planet and all its inhabitants with what the earth produces. Many great steps have already been taken in the sustainability and environmental movement," said Prof. Pauli. IoT Week Berlin aims to dive into concrete, effective technical concepts to support this - still present - mission.** **Your host: Olaf Gerd Gemein and Gunter Pauli (tbn)**