



KOERSCHULTE + WERKVEREIN

Drone Logistic Service

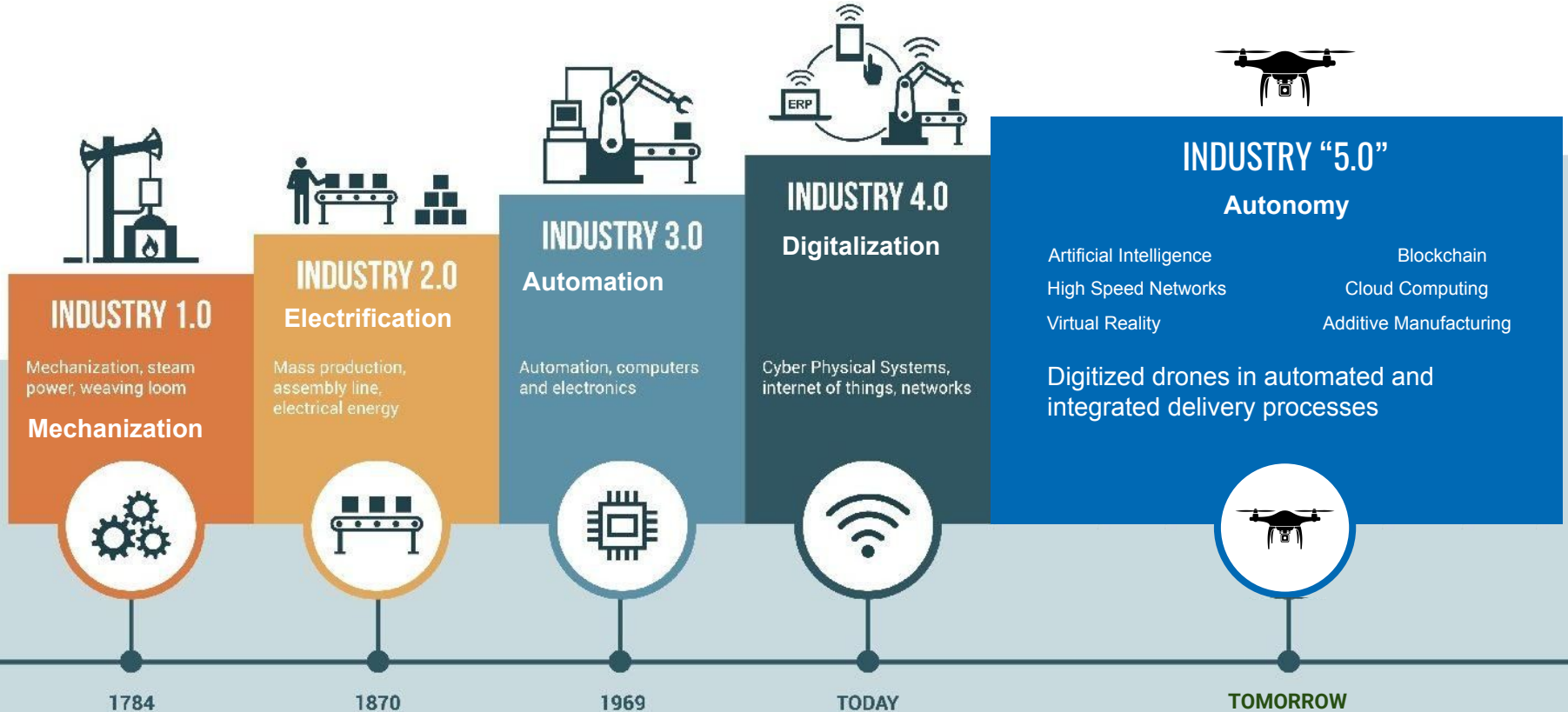
Progress moves us forward.

Wir denken Geschäft & Ideen NEU!



DER KOERSCHE
**FUTURE
CAMPUS!**

The technology development of the future



Quelle : <https://iiot-world.com/>

An insight into our operation - future in medium-sized companies

Two new trump cards - other fly on sight with one drone per pilot. We're flying out of sight (BVLOS) with several drones per pilot - automated - and if necessary we simply take over again ourselves



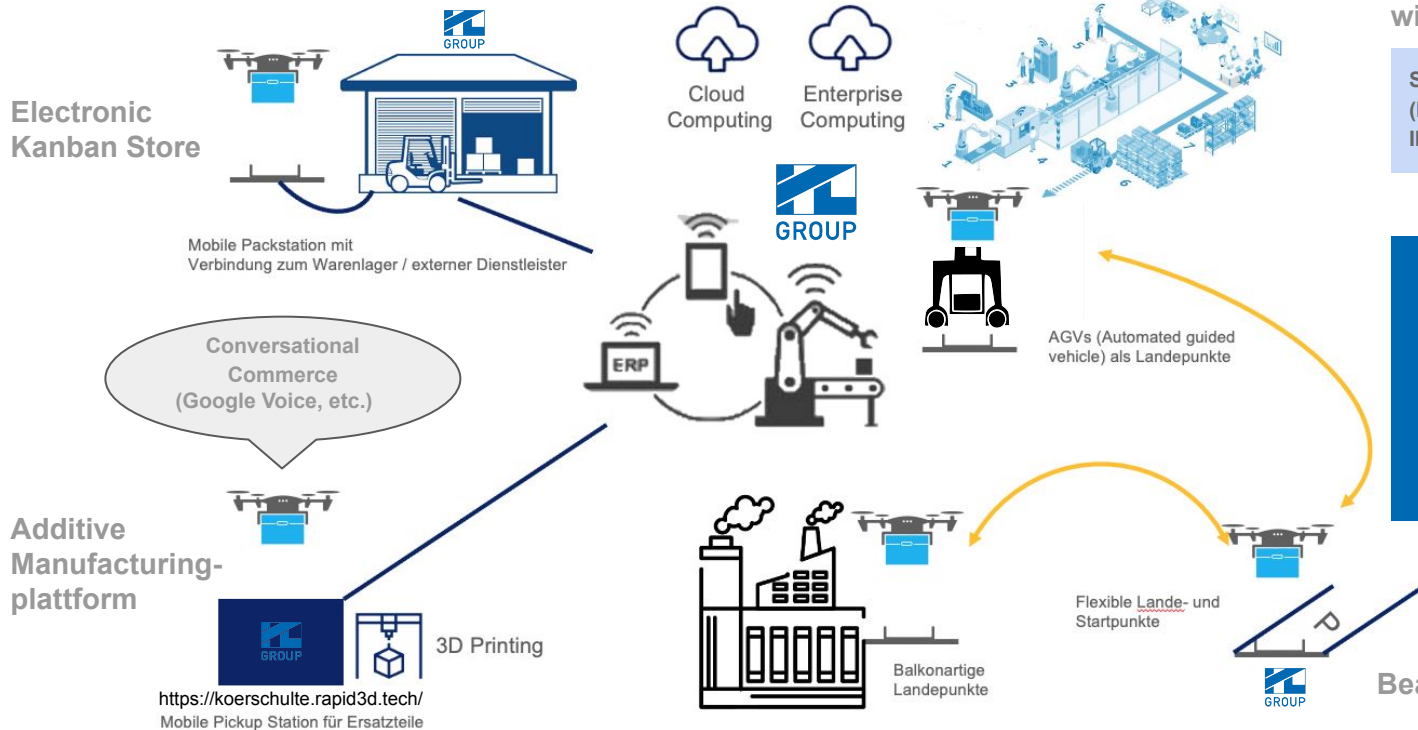
Integrated Operation Control Center (OCC)

- Management of standard processes: from registration to identity management and flight coordination to billing
- Central unit for monitoring the drone flight area
 - Automated flight operations – taking over manual control when required
 - Task-oriented workplaces for purposeful, safe drone operation
 - Permanent data connection to the drone
 - Encrypted communication
- Recording of the trajectories, storage on the black box and the server

Robust industrial drones

- Modular and open architecture
- Multiprocessor architecture for control and security
- AI processor for object recognition
- Electronic landing detection and engine stop
- Video streaming from the camera to the control center client in multicast: latency under 800ms
- Robot operating system I & II (ROS standard)
- Permanently encrypted data connection to the server

KL eProcurement Solution



Roboter Service with AGVs

System Design IEC 62443
(Industry 4.0 Security) and
IEC 61508 (machine safety)

Optimization of
Supply chain with drones
and robots for the retail
Logistics of the future

Drone Hives - integrated takeoff and landing platform for industry



Used drone types for the different applications



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TECHNISCHE SPEZIFIKATIONEN FLUGSYSTEM

DIMENSIONEN

Maße (excl. Propeller):	108 x 108 x 53 cm
Maße (incl. Propeller):	144 x 144 x 53 cm
Max. Abfluggewicht (MTOW):	10 kg
Transport-Case:	80 x 58 x 48 cm
Zubehör-Case:	56 x 46 x 27 cm

PERFORMANCE-DATEN

Betriebstemperatur:	- 10°C bis +40°C
Antriebssystem:	17" x 5,5" Carbon-Propeller (x6)
Flugzeit (Standard-Payload):	45 Minuten
Flugzeit (max. Payload):	20 Minuten
Maximale Payload (excl. Akkus):	3 kg
Windstabilität (max.):	15 m/s

GNSS

GNSS-Typ:	U-Blox M8N mit optionalem RTK
Unterstützte Systeme:	GPS/GLONASS/BEIDOU/GALLILEO-ready
Relative Genauigkeit:	bis zu 30 cm im Stand-Alone-Modus bis zu 3cm im RTK-Modus bis zu 2.5m im Stand-Alone-Modus bis zu 2.5 cm im RTK-Modus
Absolute Genauigkeit:	

SENSOREN

Lagesensoren:	IMU und Gyro-Sensor (3-fach redundant)
Kompass:	Externes Magnetometer

FUNKVERBINDUNG

Pult-Typ:	Jeti DC-24 Pulsender
Funkübertragung Telemetrie/RC :	868 MHz / 2,4 GHz (3-fach redundant)
Funkübertragung Leitstand/Payload:	UMTS/4G mit Diversity-Antenne



TECHNISCHE SPEZIFIKATIONEN

DIMENSIONEN

Maße (excl. Propeller):	92 x 125 x 57,5 cm
Maße (incl. Propeller):	154,5 x 187,5 X 57,5 cm
Max. Abfluggewicht (MTOW):	25.0 kg
Transport-Case:	100 x 70 x 40 cm
Zubehör-Case:	56 x 45 x 27 cm

PERFORMANCE-DATEN

Betriebstemperatur:	- 10°C bis +40°C
Antriebssystem:	28,2" x 9,2" Carbon Propeller faltbar
Flugzeit (max. Payload):	ca 20 Minuten
Maximale Payload (excl. Akkus):	7 kg
Windstabilität (max.):	15 m/s

GNSS

GNSS-Typ:	U-Blox M8N mit optionalem RTK
Unterstützte Systeme:	GPS/GLONASS/BEIDOU
Relative Genauigkeit:	bis zu 30 cm im Stand-Alone-Modus bis zu 3cm im RTK-Modus bis zu 2.5m im Stand-Alone-Modus bis zu 2.5 cm im RTK-Modus
Absolute Genauigkeit:	

SENSOREN

Lagesensoren:	IMU und Gyro-Sensor (3-fach redundant)
Kompass:	Externes Magnetometer

FUNKVERBINDUNG

Pult-Typ:	Jeti DC-24 Pulsender
Funkübertragung Telemetrie/RC :	868 MHz / 2,4 GHz (3-fach redundant)
Funkübertragung Mobilfunk:	UMTS/4G mit Diversity-Antenne

STROMVERSORGUNG

Flugakku-Typ:	2 x 6S seriell (44,4 V) Lithium-Polymer
Kapazität:	30,000 mAh
Nennenergie:	1332 Wh



TECHNICAL SPECIFICATIONS

DIMENSIONS

Dimensions (incl., props):	299 x 159 x 47 cm
Max. takeoff weight (MTOW):	25.0 kg
Cargo hold:	60 x 60 x 18 cm
Transport-Case:	tbd

PERFORMANCE-DATA

Operating temperature:	- 10°C to +40°C
Drive train:	Fully electric / Dual front Motor option
Hover Motors:	6x brushless electric
Flight range (max.):	220 km @ 90 km/h speed
Flight time (max.):	3 hours @ 75 km/h speed
Flight range (max.):	220 km @ 90 km/h speed
Flight time (max.):	3 hours @ 75 km/h speed
Max. payload (excl. batteries):	8 kg
Wind stability (max.):	20 m/s

GNSS

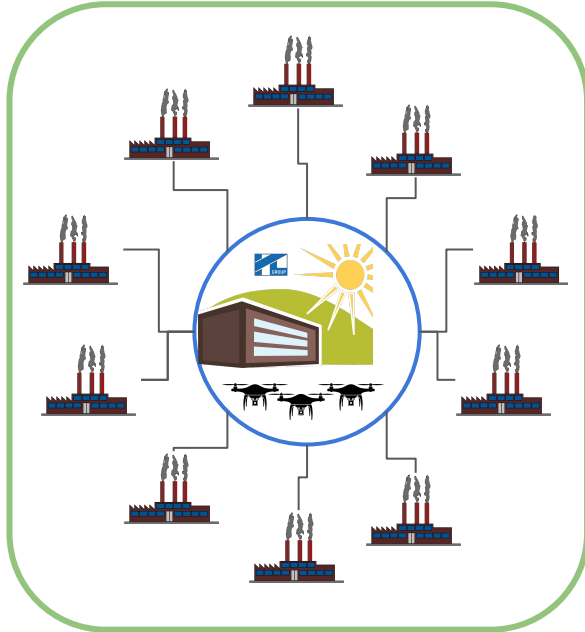
GNSS-type:	U-Blox M8N with optional RTK
Supported systems:	GPS/GLONASS/BEIDOU/GALLILEO-ready
Relative accuracy:	up to 30 cm via stand-alone-modeus up to 3cm via RTK-modeus up to 2.5m via stand-alone-modeus up to 2.5 cm via RTK-modeus
Absolute accuracy:	

SENSORS

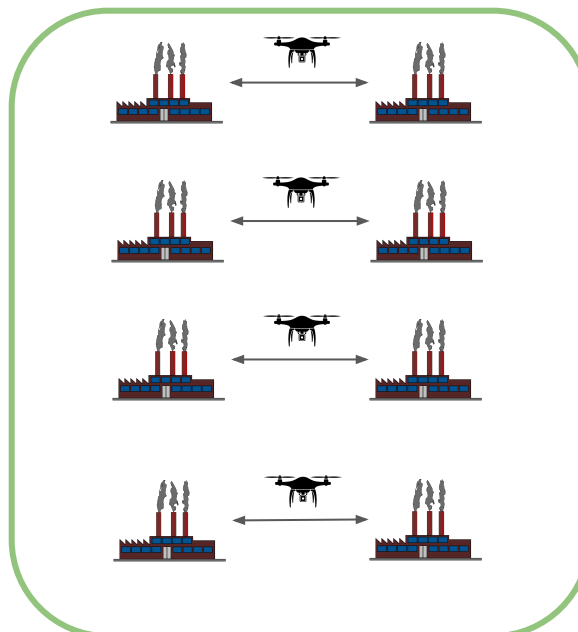
Position sensors:	IMU and gyro-sensor (3 times redundant)
Compass:	External magnetometer

RADIO CONNECTION

Console type:	Jeti DC-24 RC transmitter
Radio transmission telemetry/RC :	868 MHz / 2,4 GHz (3 times redundant)
Radio transmission Mobile radio:	UMTS/4G with diversity antenna (optional)



Customer delivery via drone, service within minutes on site



Intralogistic drone deployments on customer territory, movement of goods between factories and outstations

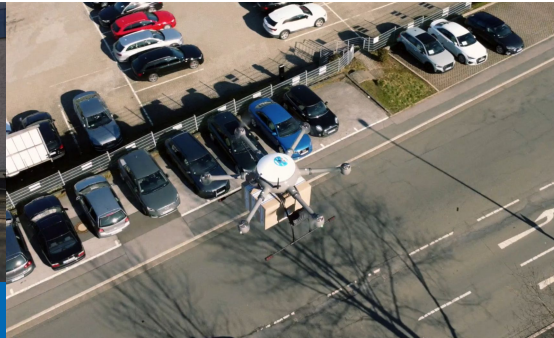


Inspections, recording and measuring work in places that are difficult to access

- Saving of CO2 emissions compared to classic sprinters and truck tours (100% electrically charged via green electricity)
- Globally leading and sustainable transport solution in one of the strongest economic regions in Germany (South Westphalia)
- Use of own drone nests as an infrastructure solution for companies
- Development of urban spaces for logistics services



Launch of the drone



The flight to the customer

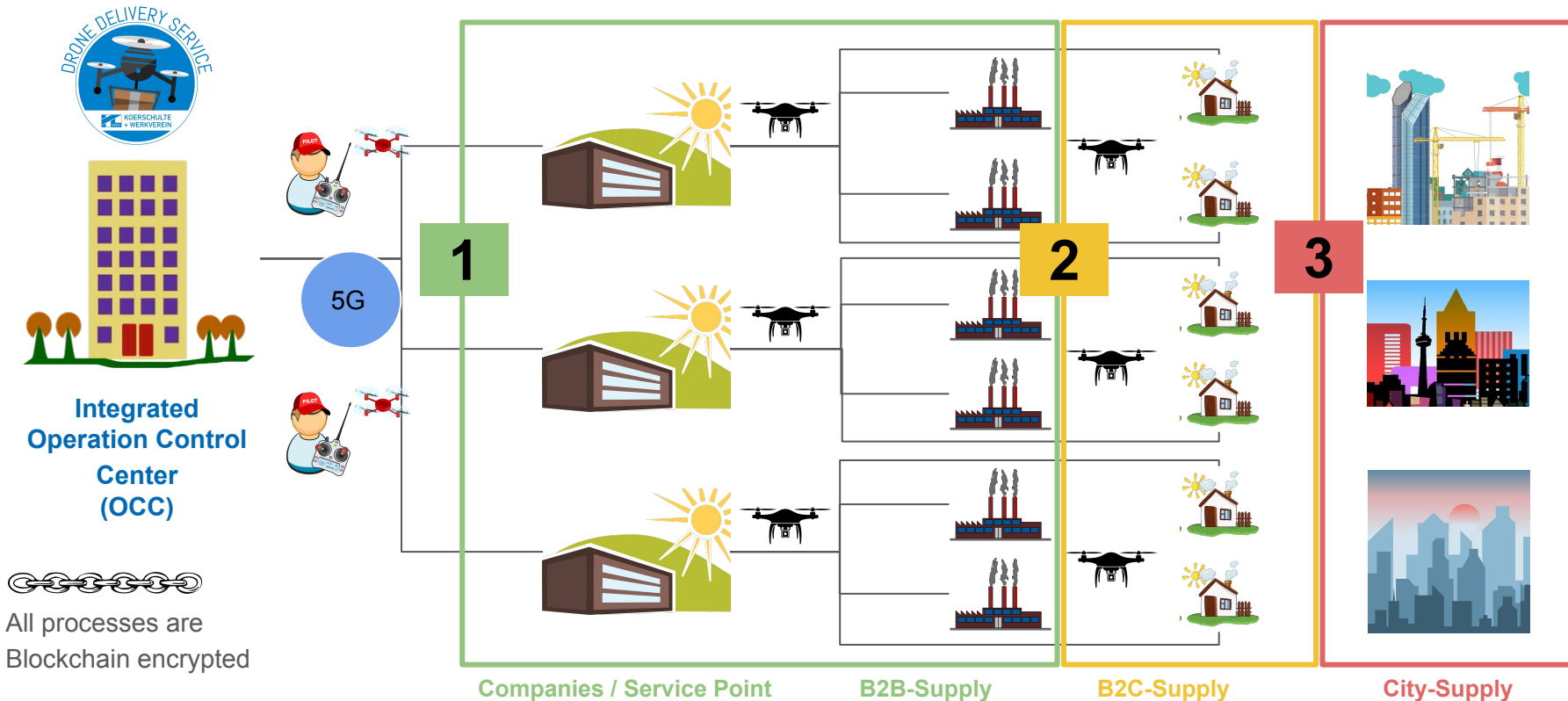


Arrival of the drone & the goods

Drone Logistics Service | Roll-out stages over the next few years



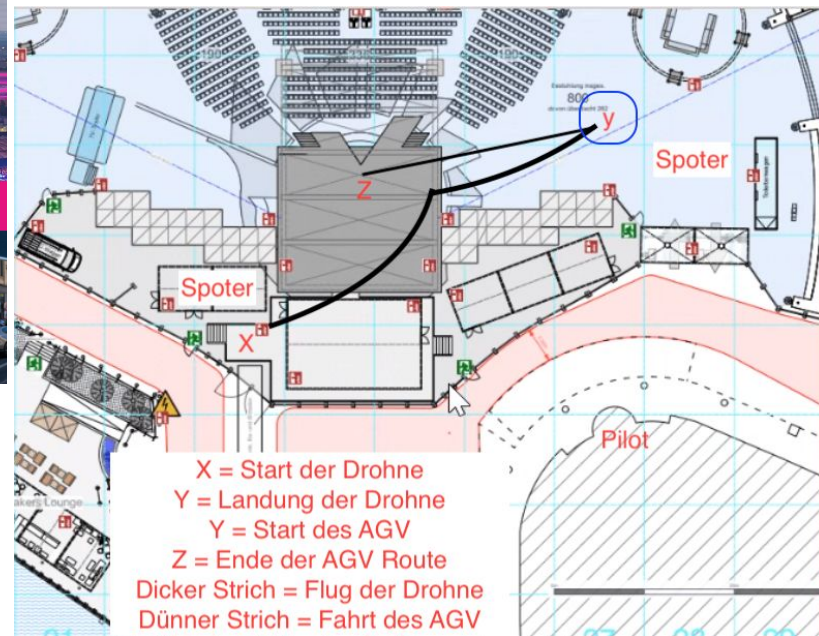
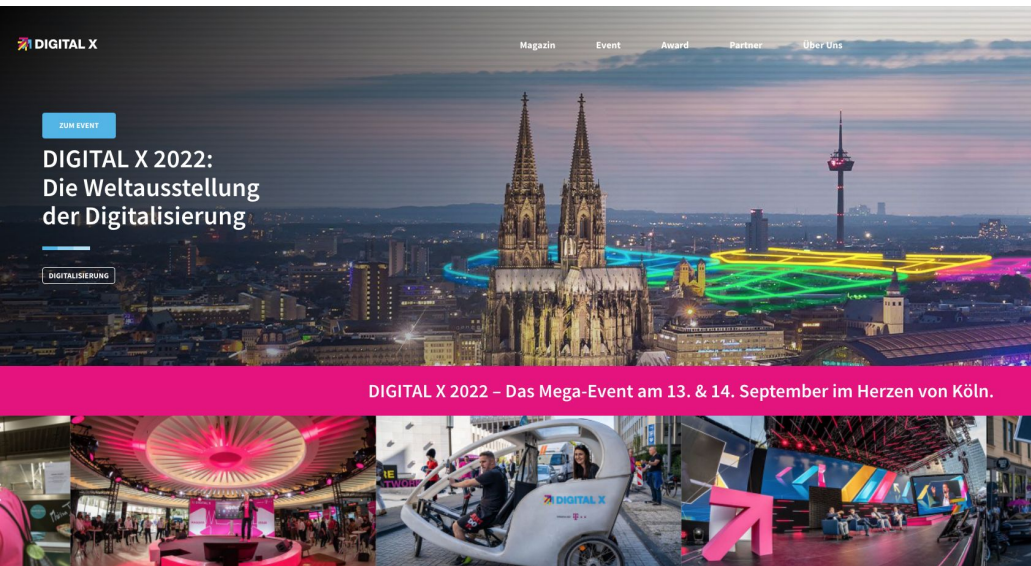
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Presentation of the business model & actual projects at the Digital X '22



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<https://www.digital-x.eu/de/events/digital-x-2022>

Pioneer

Explorer

Maker





Wir machen
unsere Partner

STARK!