



Practical examples of a digital asphalt value chain



Thomas Leopoldseder

q-point.com

EU Business
European CEO
of the Year Awards 2024



Dr. Thomas Leopoldseder
Q Point

Civil Engineering
Construction Software
CEO of the Year
2024

Q Point in a Nutshell

100%

- We work for better road construction that sustainably uses existing resources
- Manufacturer-neutral digital solutions for companies along the whole value chain
- Experts in digitalized road construction
- System integrator for our customers



BHZ Baustoff Verwaltungs AG



BHZ Baustoff Verwaltungs AG



BAB Belag AG Birmensdorf



BAB Belag AG Volketswil



BAB Belag AG Zentralschweiz



BBA Belagswerk Beringen AG



Tobega AG Neftenbach



RZO AG Recycling Züri
Oberland

5

Asphalt plants

2

Recycling plants



More than 50 years
of experience in
asphalt production



Reduction of carbon
emissions by 52%
since 2013



Recycling quote of
up to 95% in the
mixture



BHZ Baustoff Verwaltungs AG

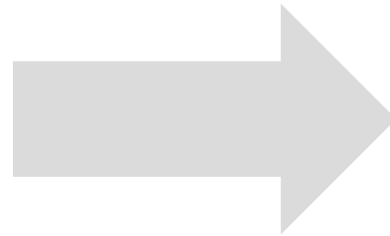
- INNOVATION and sustainability thanks to research and development, energy measures, **digitalization**
- Resource-efficient and environmentally friendly through the reuse of reclaimed asphalt



www.bhzgroup.ch

Promotion on Website

- Information on the website with QR Code to download the free App



Easy implementation for customers of BHZ

BHZ ASPHALT FÜR PROFIS

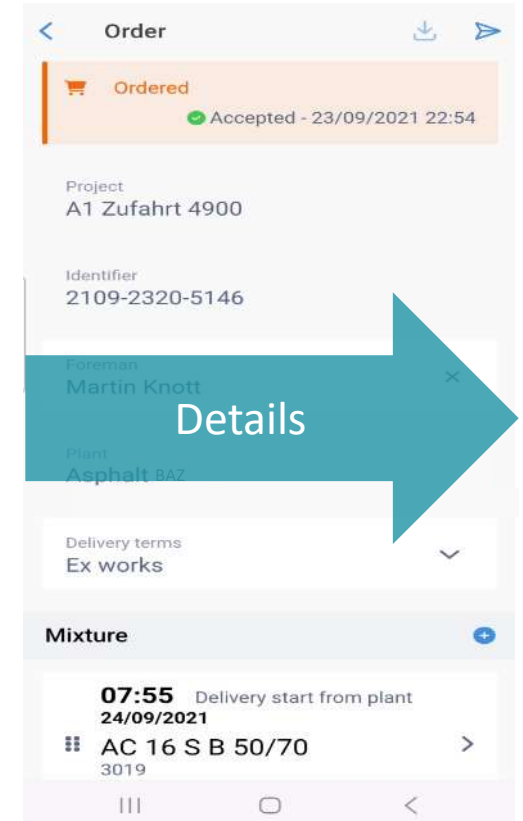
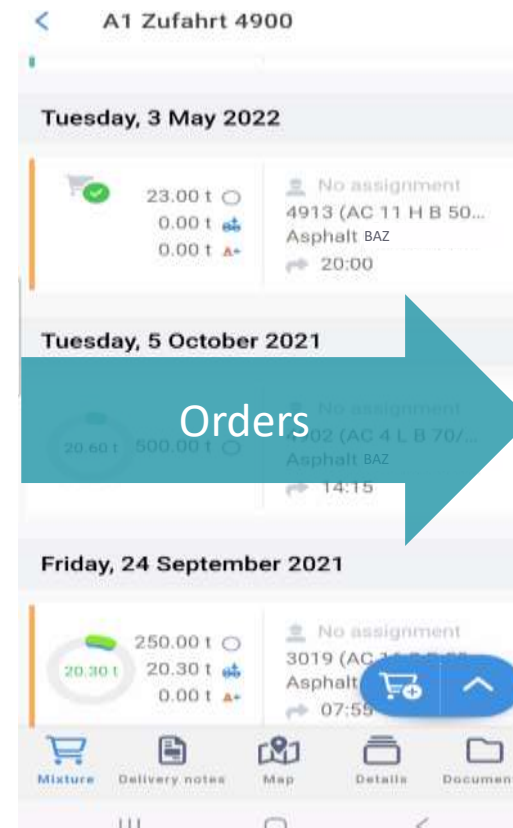
Laden im App Store GET IT ON Google Play

Q point
SCAN ME!

Zurück Tragschicht - A12
1500 / 9000 12.07. - 01.08.19
MISCHWET
Heute, 13.10.2018
11:00 AC 1900
10:10 Asphaltmischer
08:10
Dienstag, 14.10.2018
11:00 AC 1900
10:10 Mischwerk 01
08:10
11:00 AC 1900

Efficient workflow on the site with Q Site

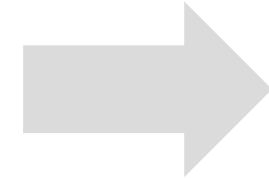
Linking all participants in the value chain



Efficient plant management at the asphalt plant with **Q Plant**



Digital orders



- Overview about the orders
- Communication with the site
- Utilization overview
- Integration of control system

Fixed orders

Non binding requests



Production Optimization and **Workload**

- Information to forecast the work load and the ordered articles
- Optimization of the production program

1 day

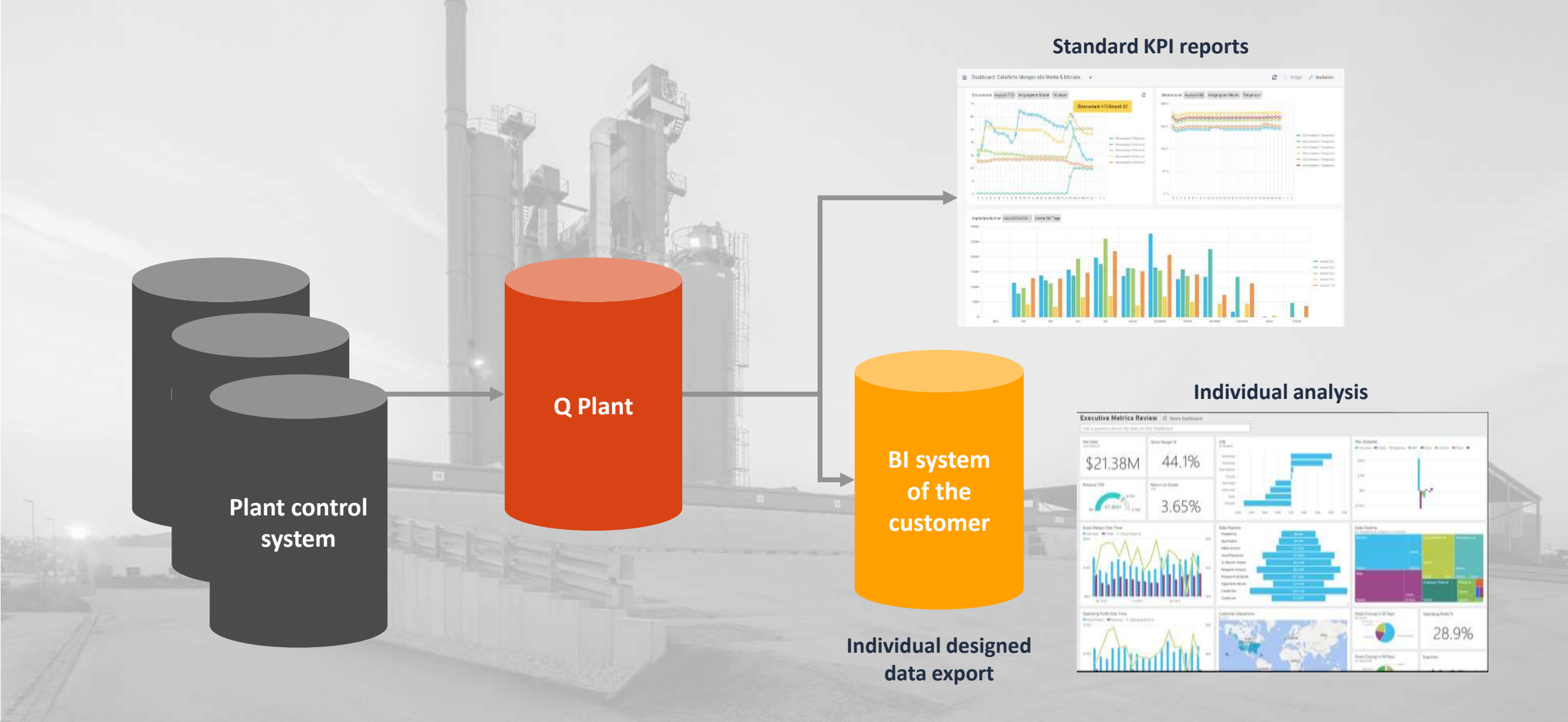
Short term

1 week

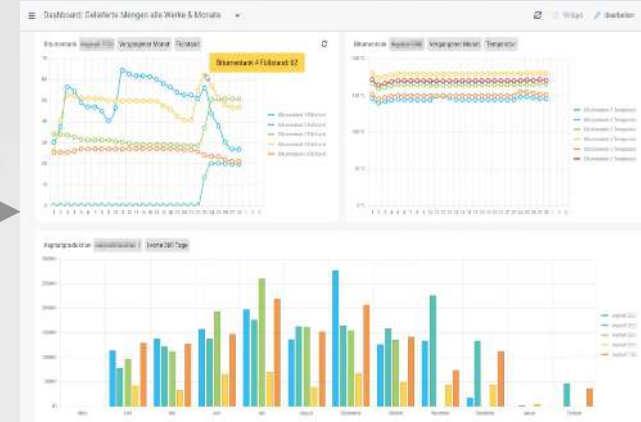
Mid term

1 month

Long term



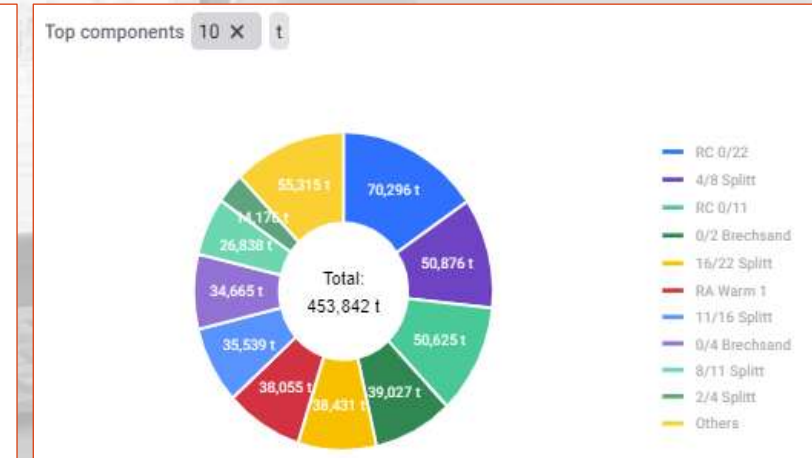
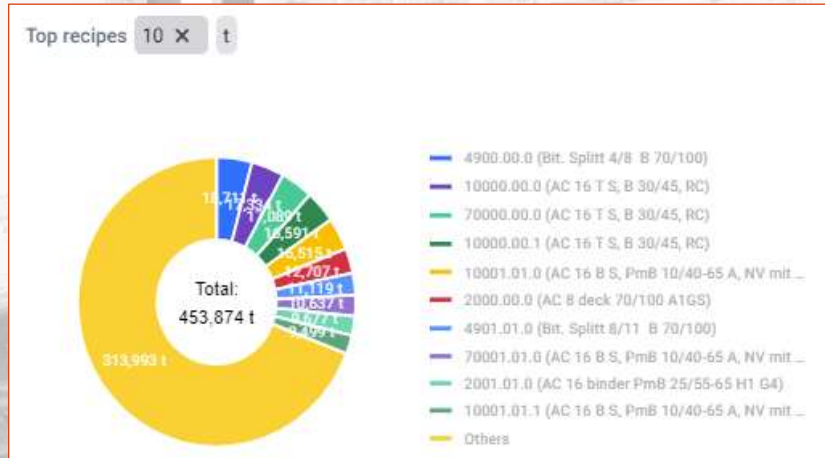
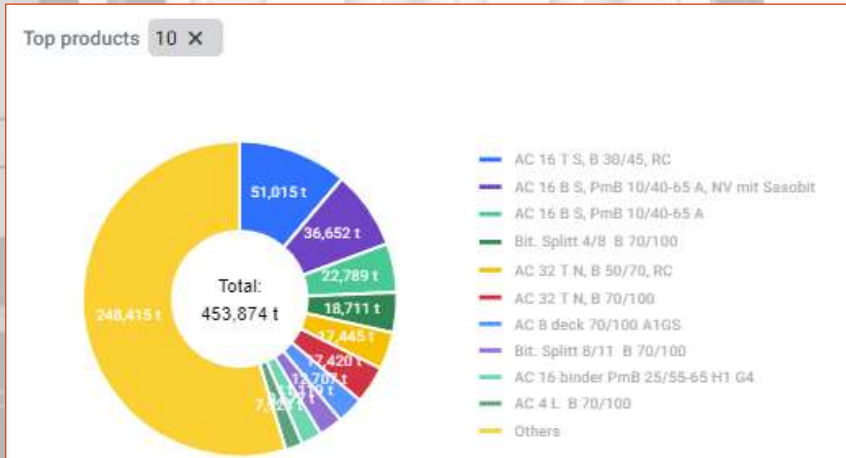
Standard KPI reports



Individual analysis



Analysis of operating and production data



Production and operation data

Plant	↓	🔔	🔒	Qu...	Bat...	Recipe	Σ Pulver	Σ Haftmittel	Σ Gesteinskörnung	Σ Füller	Σ Bitumen	Σ Asphaltgranulat
Friday, 2/8/2024												
Asphalt ...	14:26	1:04 min	190 190 190 °C	1,68 t	1	2002.02.0 (AC 32 ...		00,20 00,20 kg	1.489, 1.512, ...	86,38 85,00 ...	105,50 102,00 ...	
Asphalt ...	14:25	1:13 min	185 185 185 °C	3 t	1	2044.44.0 (AC 32 t...		00,27 00,27 kg	2.732, 2.741, ...	123,30 120,00 ...	139,10 138,00 ...	
Asphalt ...	11:57	7:12 min	204 204 204 °C	4,01 t	2	2081.81.0 (SMA 11...	279,30 279,30 ...		3.617, 3.591, ...	113,45 119,70 ...		
Asphalt ...	11:44	11:16 min	183 191 197 °C	9 t	3	2081.81.0 (SMA 11...	627,24 627,24 ...		8.113, 8.064, ...	264,24 268,82 ...		
Asphalt ...	11:36	1:50 min	181 183 187 °C	7 t	3	2031.31.0 (AC 22 ...		00,70 00,70 kg	6.380, 6.378, ...	276,05 280,10 ...	346,32 343,12 ...	
Asphalt ...	11:34	36 s	157 157 157 °C	2,96 t	1	2063.63.0 (AC 11 ...			1.132, 1.125, ...		77,36 75,00 kg	1.745, 1.800, ...
Asphalt ...	11:32	1:06 min	154 156 158 °C	4,04 t	2	2000.00.0 (AC 8 de...		00,04 00,04 kg	1.545, 1.559, ...		60,40 56,57 kg	2.429, 2.424, ...
Asphalt ...	11:28	1:16 min	187 191 195 °C	4,27 t	2	2009.09.0 (AC 11 ...		00,52 00,52 kg	3.838, 3.879, ...	186,70 194,67 ...	249,83 250,91 ...	
Asphalt ...	11:00	55 s	215 215 215 °C	2,98 t	1	2002.02.0 (AC 32 ...		00,36 00,36 kg	2.654, 2.669, ...	145,97 150,00 ...	180,70 180,00 ...	
Asphalt ...	10:38	7:17 min	190 213 228 °C	11, ... t	4	2014.14.0 (AC 22 ...			8.304, 8.304, ...	2.882, 2.876, ...	808,13 802,89 ...	
Asphalt ...	10:21	25 s	172 172 172 °C	2,98 t	1	2002.02.0 (AC 32 ...		00,36 00,36 kg	2.651, 2.669, ...	150,60 150,00 ...	181,71 180,00 ...	
Asphalt ...	10:13	2:46 min	163 166 168 °C	8,98 t	3	2002.02.0 (AC 32 ...		01,08 01,08 kg	7.979, 8.038, ...	455,02 451,68 ...	548,78 542,01 ...	
Asphalt ...	10:04	2:40 min	180 183 186 °C	8,98 t	3	2009.09.0 (AC 11 ...		01,09 01,08 kg	8.059, 8.114, ...	398,90 407,12 ...	524,84 524,72 ...	
Asphalt ...	9:53	2:41 min	158 160 163 °C	7,53 t	3	2003.03.0 (AC 8 de...			2.839, 2.878, ...		144,09 143,57 ...	4.542, 4.533, ...
Asphalt ...	9:50	1:00 min	181 181 181 °C	2,49 t	1	2002.02.0 (AC 32 ...		00,30 00,30 kg	2.212, 2.224, ...	126,81 125,00 ...	152,51 150,00 ...	
Asphalt ...	9:47	4:01 min	179 180 180 °C	5,98 t	2	2002.02.0 (AC 32 ...		00,72 00,72 kg	5.321, 5.362, ...	301,76 301,30 ...	362,94 361,56 ...	
Asphalt ...	9:44	1:45 min	157 160 162 °C	4,02 t	2	2003.03.0 (AC 8 de...			1.544, 1.517, ...		73,54 75,70 kg	2.398, 2.390, ...

desired: 120,00 kg / actual: 123,30 kg (difference : +03,30 kg ; tolerance: 2 %)

Analysis of batch protocols

Transport updates for Drivers

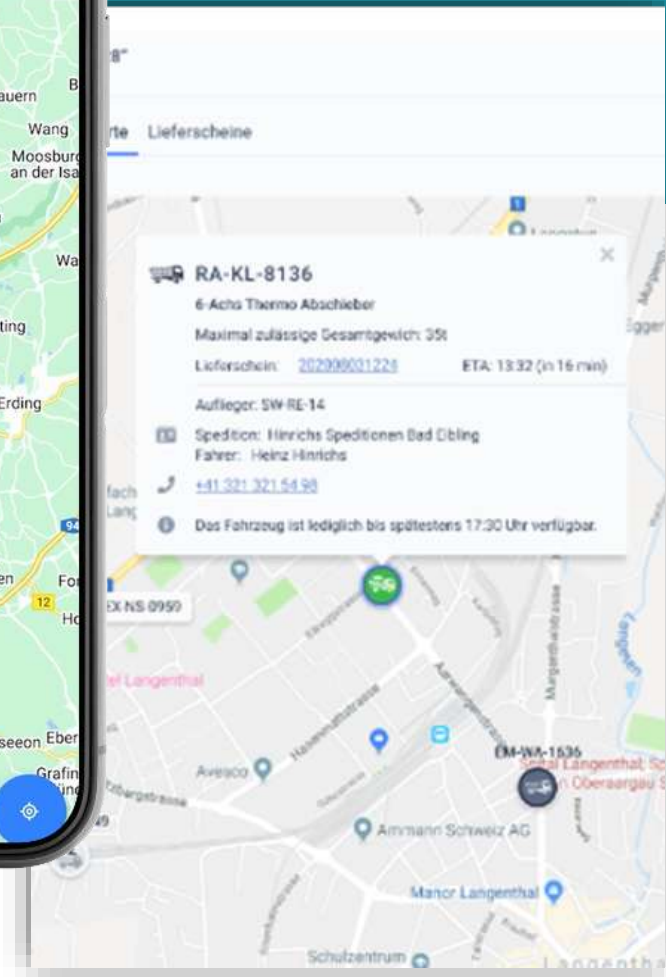
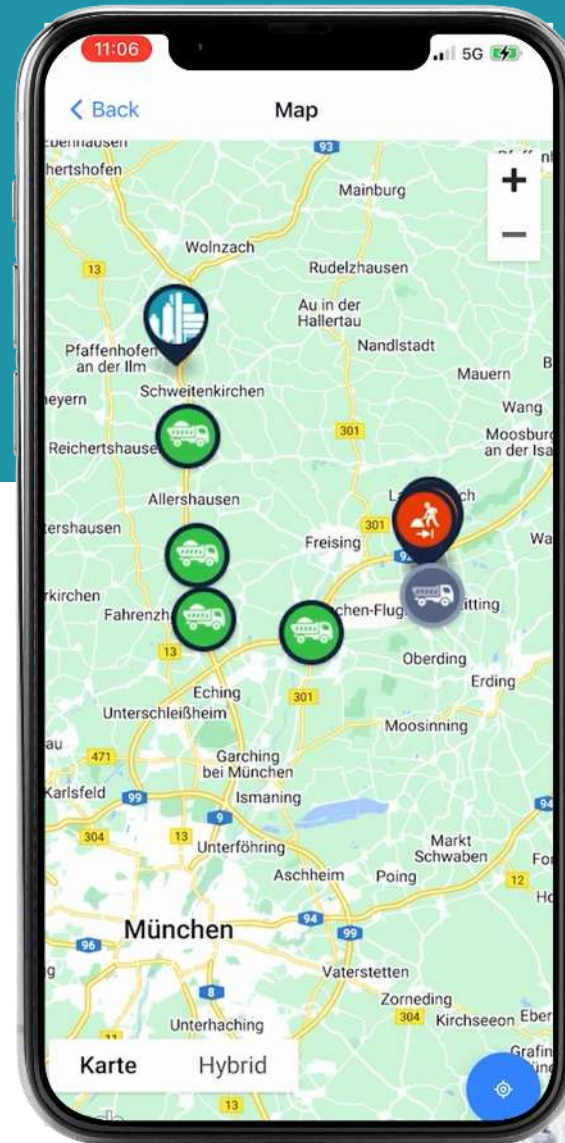
- Information for lorry driver
- Live information for site and plant

Construction

Optimal paving
planning and
operation

Plant

Optimal production
and delivery
management



Successful Partnership **with BHZ**

How BHZ benefit from the digital value chain

”

Having the ability to exchange information along the entire supply chain digitally ensures that everyone is on the same page. More transparency enables effective and cost-efficient processes.”



Bernhard Kunz
CEO



ARGE Mid Night Force - Zurich Airport

Facts and figures

Renovation of runway 28 at Zurich Airport during operation of the airport



Statistic

- 5 Companies
- 2 Asphalt plants
- 2,500 m runway
- 67,000 tons new asphalt
- 70 Nights



Expectations

- On-time construction



Documentation

- High quality
- Proof of quality



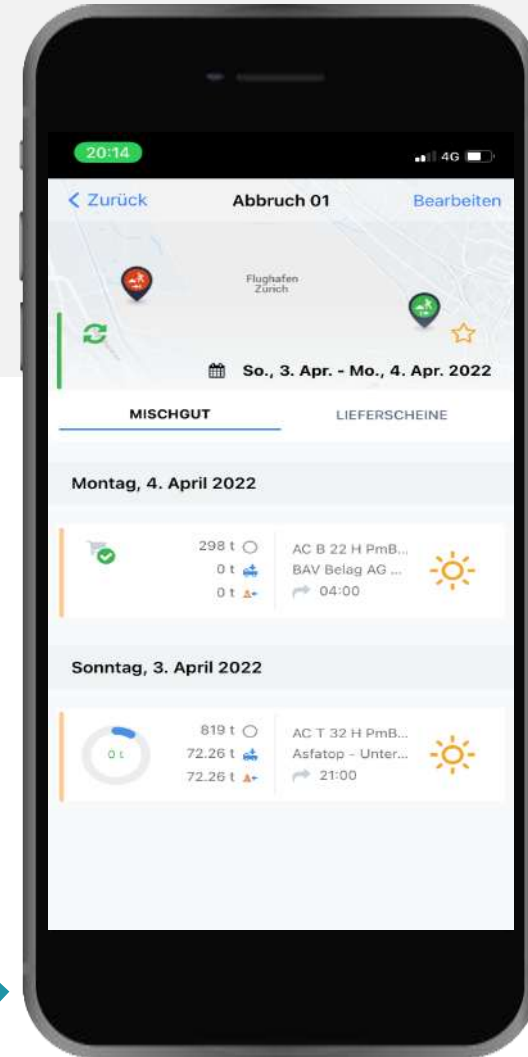
Machines

- Different types of machines

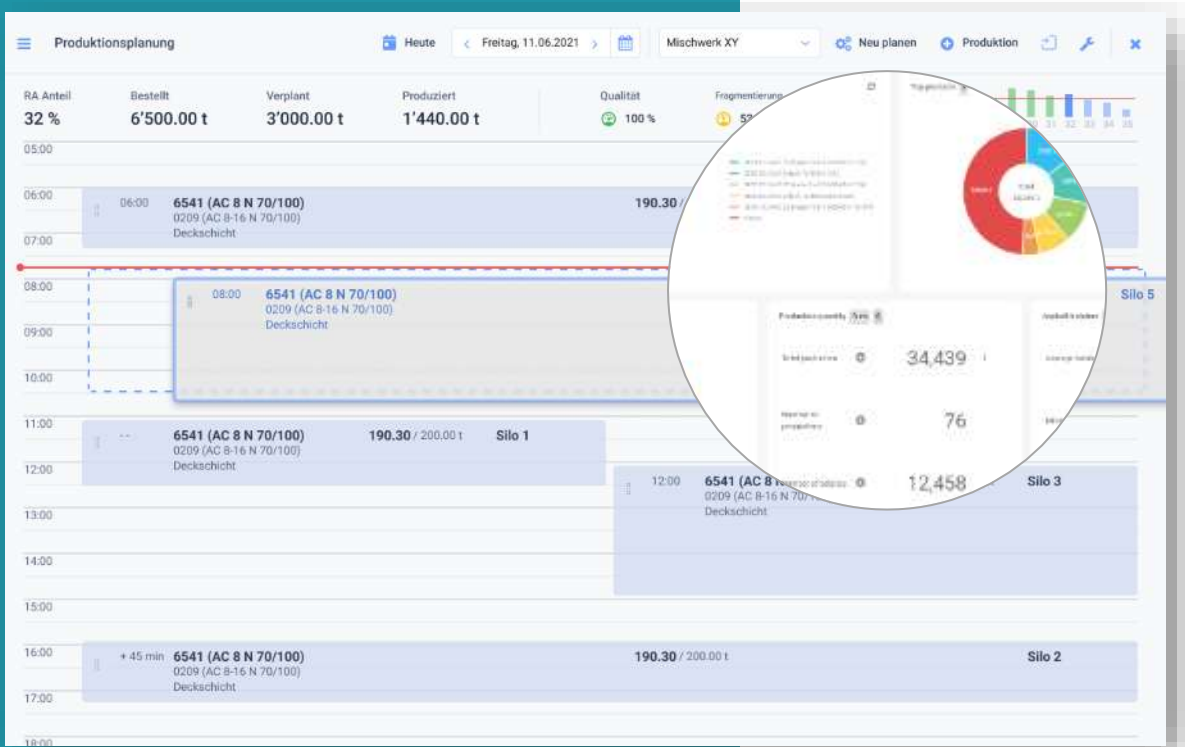
Digital value chain

- Planning and ordering

<p>Different plants</p> <p>Simultaneous ordering at two plants.</p>	<p>Different layers</p> <p>Base course and binder course are ordered during the night.</p>
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Asfatop



Production planning

- Production planning in the night
- Optimal transport planning according to the progress on the construction to avoid waiting times

BAV Belag AG



Asfatop



Continous construction process in a limited time frame!

Supply chain

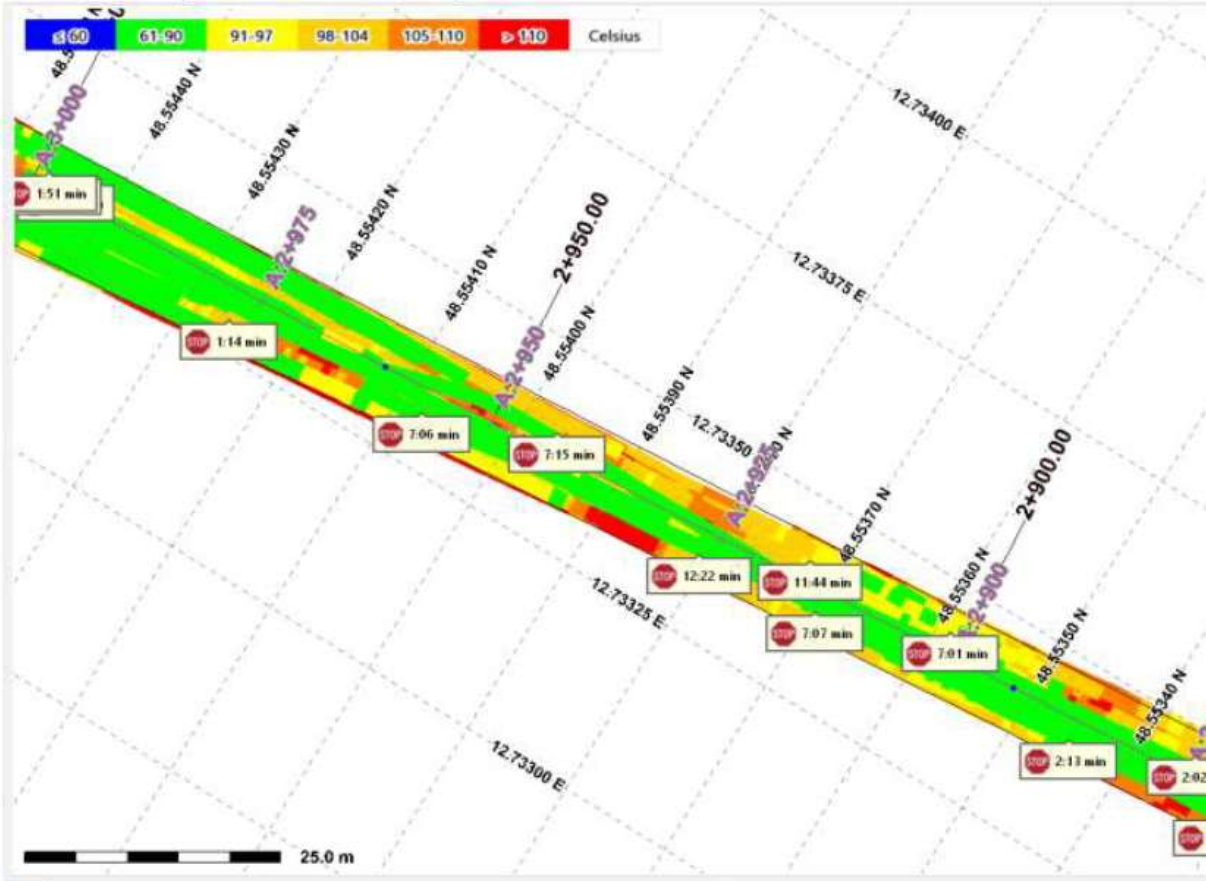


Paving and compaction



Advances analyses

Paver temperature and stops



Virtual drill hole



What else can be done - Examples

Digital support for people



Planning

Easy support of small projects

Detailed planning functionalities if needed

- Quantity estimation
- Lorry planning
- Construction process planning



Simulation and optimization

Simulation of construction process and delivery planning

Optimization of transport routes

Optimization of production



Ecological footprint

Publishing of EPD values for products

Calculation of EPD values along the process



Multi-plant management

Central management of orders

Standardized statistics

A Concise Summary

The digital value chain supports the mobility of tomorrow



Sustainability

Optimised use of resources



People

Connects (young) people in their mother language to make better decisions



Quality

Increases the process quality and the quality of the asphalt pavement



Information

As-built information for the circular economy value chain.

Digital asphalt industry



Digital asphalt mixing plants - Extract



Affiliated construction companies - Extract



How to **get there**

Following the Path from Vision to Reality



Vision

A vision for a digital company!



Perseverance

Perseverance, convincing employees of the vision and implementing the solutions!



Realism

Realism that a positive transformation does not happen in one day!



Working for the **future** with technologies from **today**

Let's work together for better
road construction that uses
existing resources efficiently and
sustainably!

THANK YOU

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