



Adaptation of logistic chains for low-water situations from an industry perspective

CCNR Expert Workshop - Strasbourg

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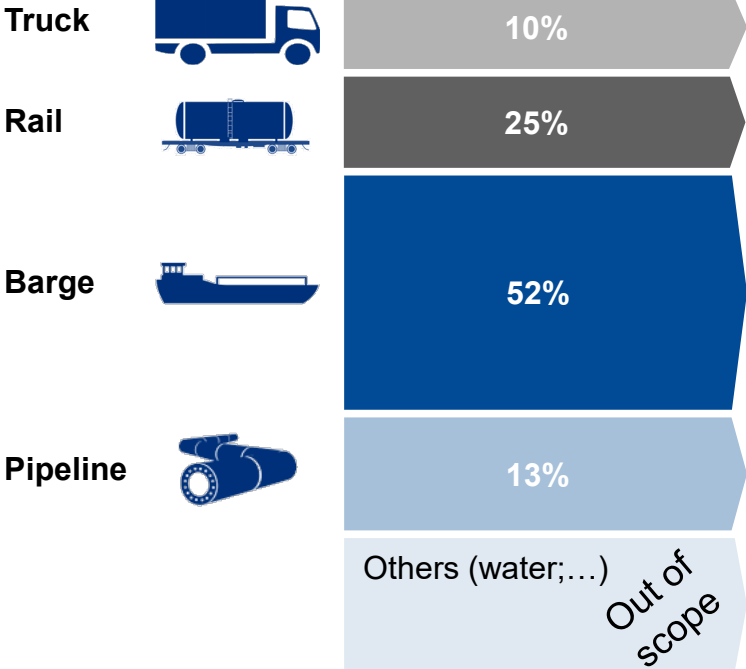
January 17th, 2023



The Rhine and barge operations are of critical importance for the raw material supply of the Verbundsite Ludwigshafen

Raw material supply

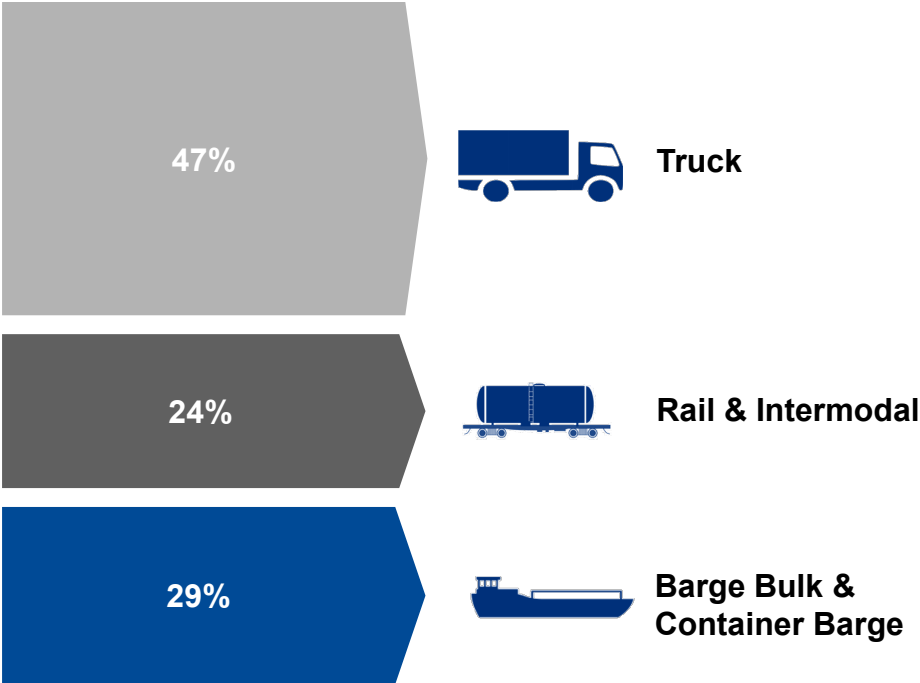
Site perspective



**BASF Site
Ludwigshafen**

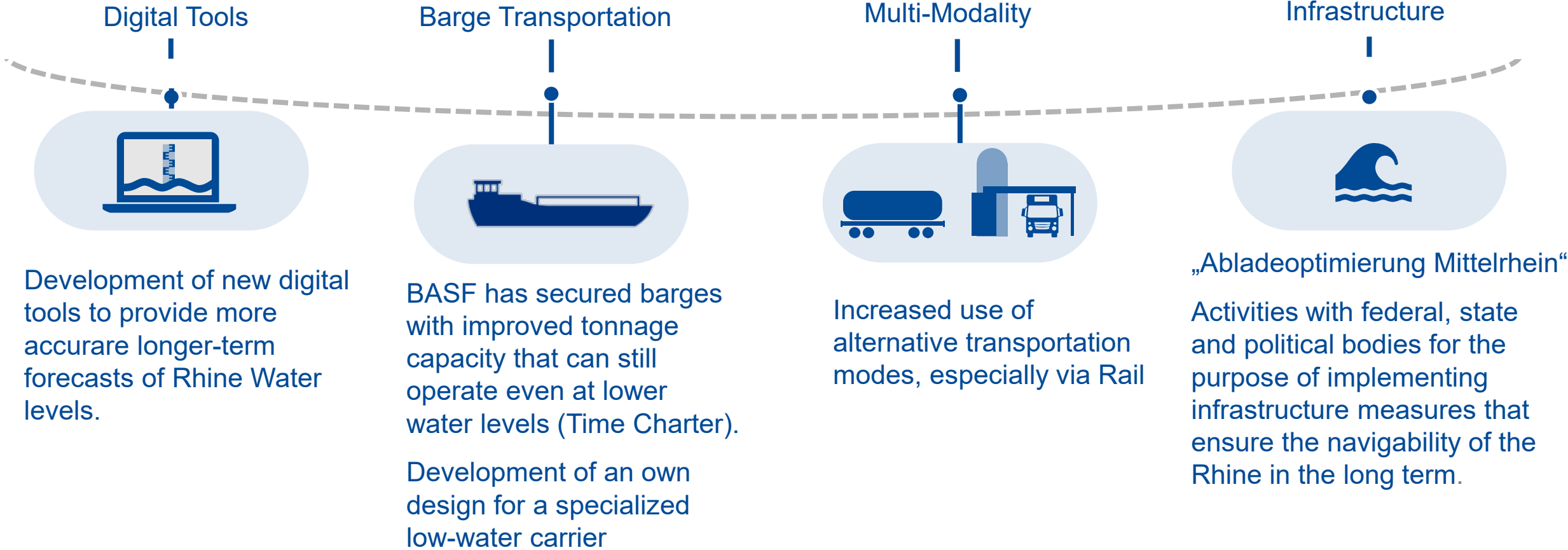
Distribution

Area Lu/Ma perspective



The critical gauge for BASF on the Rhine is Kaub in the Rhine valley
 ~80% of the transport volumes from and to Ludwigshafen have to pass the bottleneck in Kaub

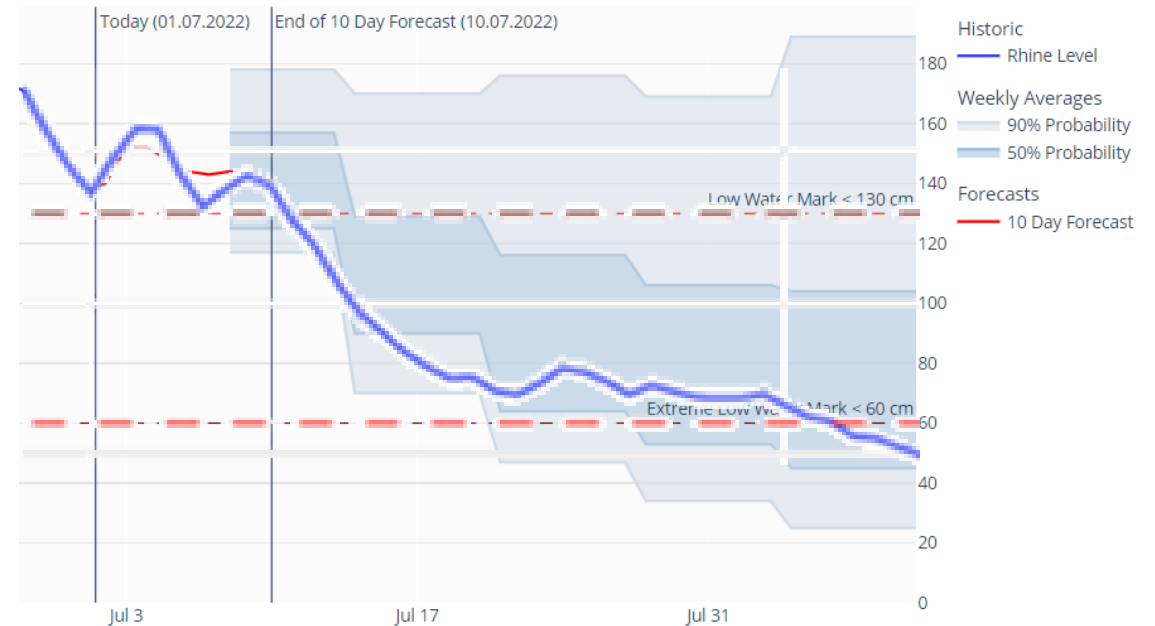
BASF adapts its logistics chains for future low water periods to be prepared for a dryness period as seen in 2018



Rhine water level forecasts are highly useful to better prepare for an extreme event (e.g. in July/August 2022)

- Since 2018 operational forecasting system established for Rhine water levels together with The German Federal Institute of Hydrology (BFG).
- We do not know how the Rhine Water Level will evolve eventually, **but we give a robust quantification of probabilities and risks for low water levels.**
- A reliable forecast is a huge lever to prepare for an approaching low water level event!
 - ▶ manage inventories and build-up of stock range
 - ▶ leadtime for alternative modes of transport
 - ▶ securing barge capacity (e.g. timecharter)

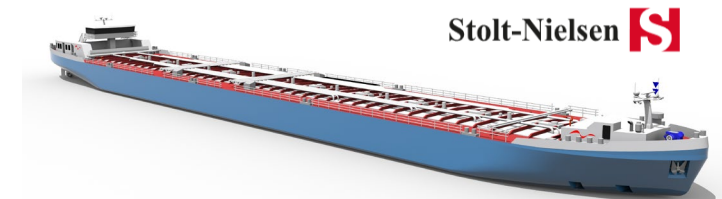
Forecast from 01 July 2022 (water level at Kaub)



Implemented measures after 2018 to build a low-water vessel fleet for BASF have proved their effectiveness in July/August 2022

Various implemented measures **doubled the number of available barges** for BASF in the extreme low-water situation in July/August 2022

- Timecharter Basefleet – permanently chartered barges
- Additional low-water barges, on-demand at Kaub <120cm
- Newbuilding of specialized low-water barges



The roadmap "Niedrigwasser Rhein" is an important milestone. Prioritize the implementation of the infrastructure measures!

„Abladeoptimierung Mittelrhein“

- Ongoing infrastructure measure with a very long planning horizon (>2032)
- Essential part of the BMVI's 8-point plan supported by BASF and various other parties
- The integration of ecology and economy, as well as the support from political bodies and the general public is of high importance for the success of the project.
- **Acceleration of approval processes for key infrastructure measures required**



Source: bmdv.de



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