

TECHNOLOGY CONFERENCE 2024

AI IN SUPPLY CHAIN –
HOW AI IS CHANGING THE LOGISTICS FOR THE FUTURE

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Optimization of flight network & maximization of utilization





Digitalization of the Last Mile for
parcel delivery

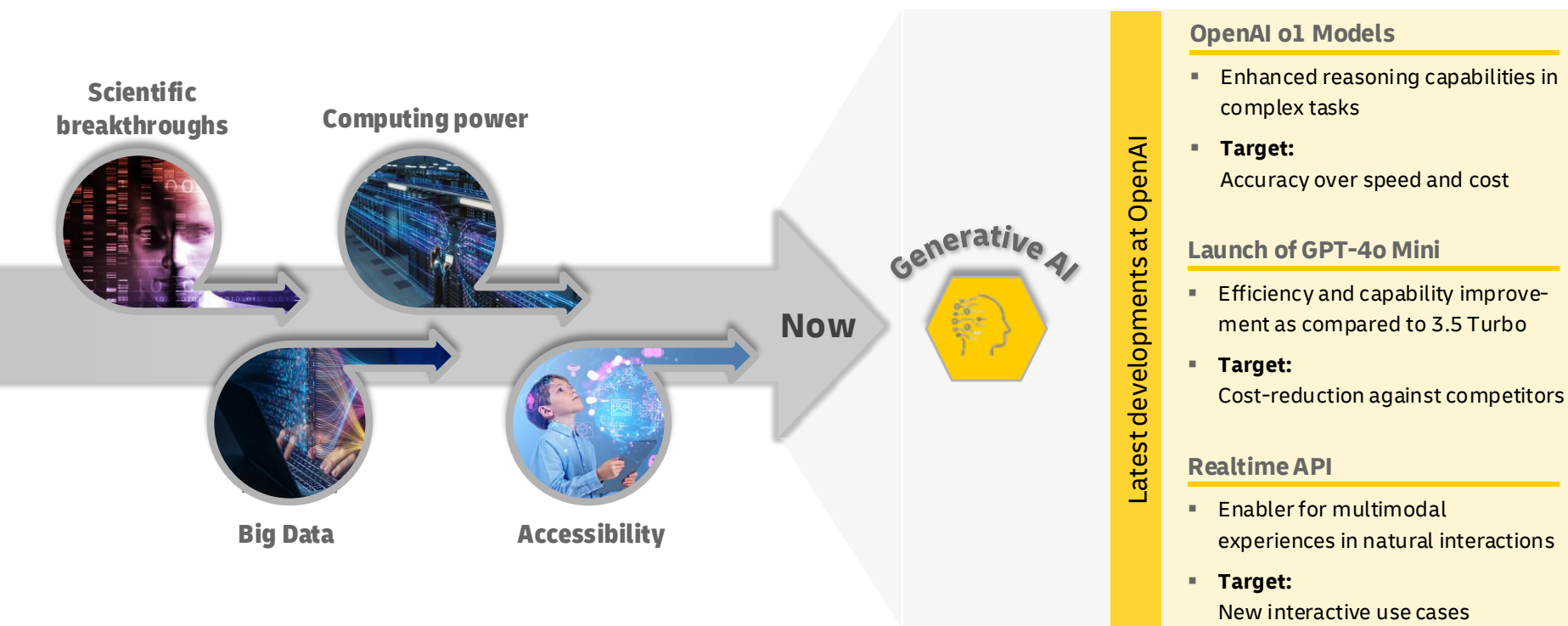


Application of Computer Vision in
the parcel sorting







Automation & Optimization of
processes

AI has been driven to the beginning of a generative era



Recent Evolution of AI – in general and in DHL Group

	EARLY AI 2010	MACHINE LEARNING 2015	DEEP-LEARNING 2023	GENERATIVE AI
Computing Power¹	1m GFLOPS	34m GFLOPS	143m GFLOPS	1.2bn GFLOPS
Users	 Niche	 Experts, broader community	 Experts	 White-collar workforce
Application examples	Research, Database filtering	Forecasting, ETA predictions	Text Analytics, image processing	Content generation, creative tasks, reasoning
		Small AI Teams in BUs and centrally	Lighthouse projects deployed across company-specific areas.	Company wide use of AI, cross divisional experts
			<i>BAP: Image recognition in P&P Hubs</i>	<i>Customs Description Quality Checker</i>
			<i>PCT: Product classification tool for customs</i>	
		<i>Geocoding</i>	<i>OnTrack</i>	<i>Smart pricing</i>
				<i>DHL GenAI Hub</i>



1) Computational capacity of the fastest supercomputer as per number of floating-point operations per second, [Source](#)

We are enhancing the efficiency of our customs processes with AI

A connected world with barriers

Global trade across borders

Regulations as impediment

Customs processes are tedious and expensive

We deployed a group-wide Product Classification Tool for Customs

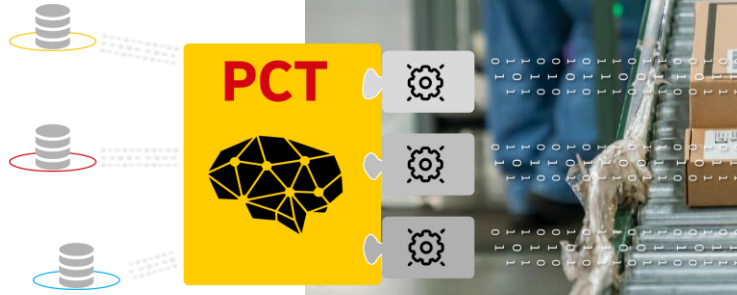
- Best-in class internal solution
- Leveraging DHL data asset
- Applying AI to predict customs codes

35+mn

unique product descriptions in data

50ms

average response time



Acceleration of processes

Supporting Customs Audit

Improve Master Data Quality

We are supporting our couriers and customers with routing and tracking

Last-mile routing
as most costly
process

Highly-complex
task with many
external factors

Unique challenge
– every day in
each route

Tacit knowledge
of experienced
couriers valuable

Courier-oriented routing and delivery time prediction

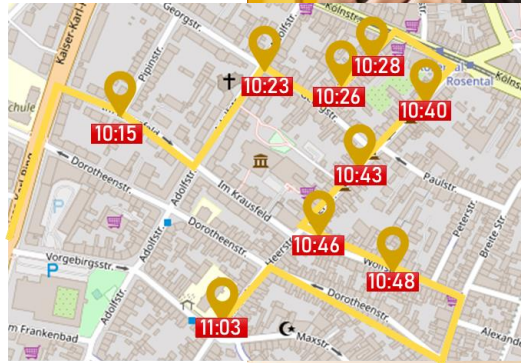
- Learning from couriers' experience
- Optimizing driving and service times
- Enabling advanced tracking features

>90%

acceptance of
provided tours

18m

average
prediction error



Increased courier
satisfaction

Reduced last-mile
delivery costs

Increased
customer satisfaction

We are changing the game for our white collar workforce

Generative AI models change the way we work

Usage of input data as training data is an issue

Invaluable scattered knowledge

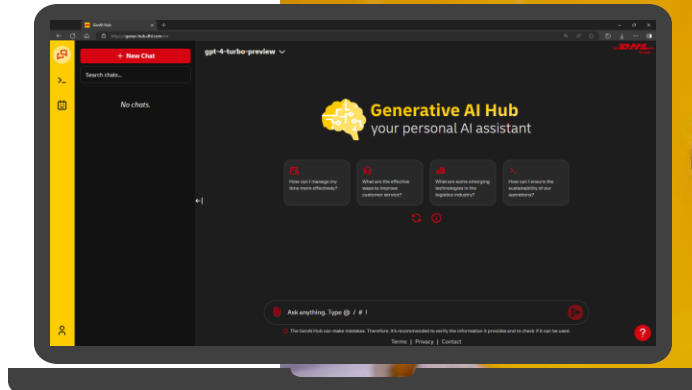
Multiple vendors

Generative AI Hub

- Provide secure and compliant access to cutting-edge Generative AI models
- One internal interface for the use cases that make sense

73k
Unique users

4.6m
prompts



➤ **Advanced internal know-how**

➤ **Averted legal impediments**

➤ **Starting point for GenAI use-cases**



(Generative) AI is also posing Risks & Challenges

Ethics & Data Protection

- How is input data being stored / used?
- What about protection of data and IP?
- Risk of manipulation, bias and lack of fairness

Accuracy



Legal

Computing Power



(Generative) AI is also posing Risks & Challenges

Ethics & Data Protection

Legal

- Copyright of AI generated content unclear
- Inputted data may be subject to restrictions

Accuracy

Computing Power



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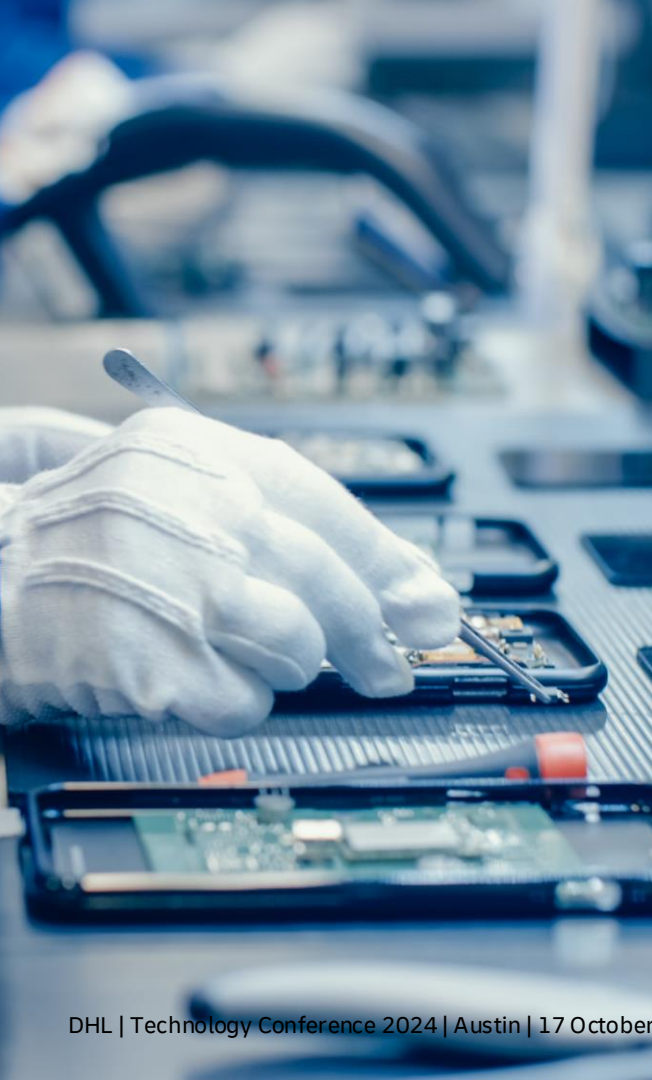
Legal

Accuracy



Computing Power

- Costly resource demand for training and inference
- Human energy consumption for complex tasks (~20W per day) is below GenAI (~2.9Wh per query)
- Users demand low latency and high performance



(Generative) AI is also posing Risks & Challenges

Ethics & Data Protection

Legal



Accuracy

- Response is wrong or biased but presented as correct (hallucinations)
- No up-to-date data
- Opaque model used to generate response (Black Box)

Computing Power

We embed AI into our Strategy 2030



Strategy 2030
**Accelerate
sustainable
growth**

„Digital by default“



- **High Impact Use Cases** across the Business
- **Compliance and Ethics** for sustainable AI
- Providing **AI tooling** to our workforce
- **Enabling** our **colleagues** and the **organization** to adopt