

# IMPACT OF GENAI ON WORKFORCE

Hamburg, 2023

DHL Consulting



# Agenda

01.

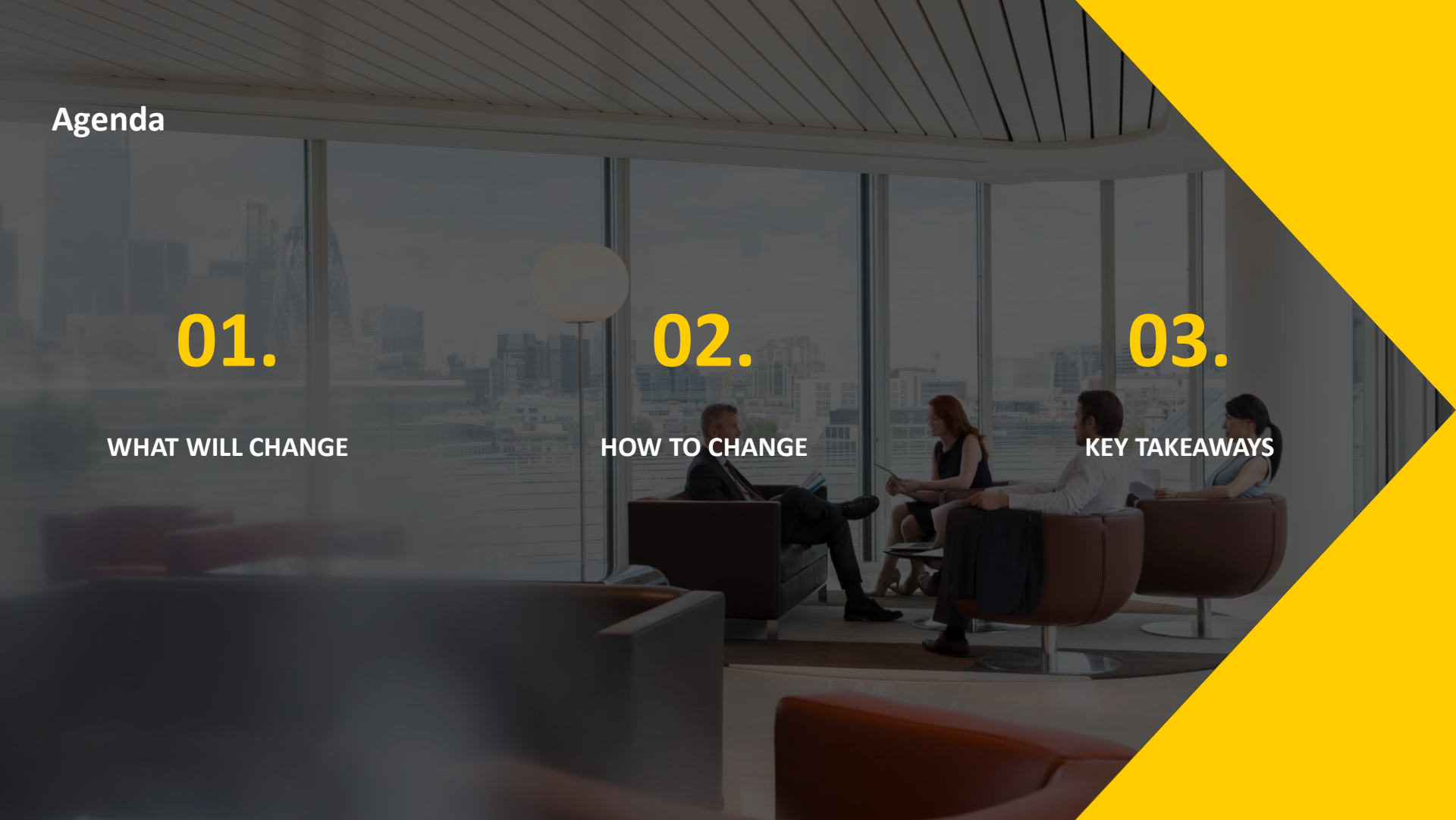
WHAT WILL CHANGE

02.

HOW TO CHANGE

03.

KEY TAKEAWAYS





**01**

**WHAT WILL CHANGE**

## GenAI possesses a wide range of capabilities and can perform multiple tasks currently done by humans



Expansion & summarization

- Writing emails/articles based on prompts
- Summarizing legal/regulatory documents

Classification

- Identifying fraudulent transactions based on guidelines

Inference

- Analyzing large sets of data and providing insights and recommendations

Creative content generation

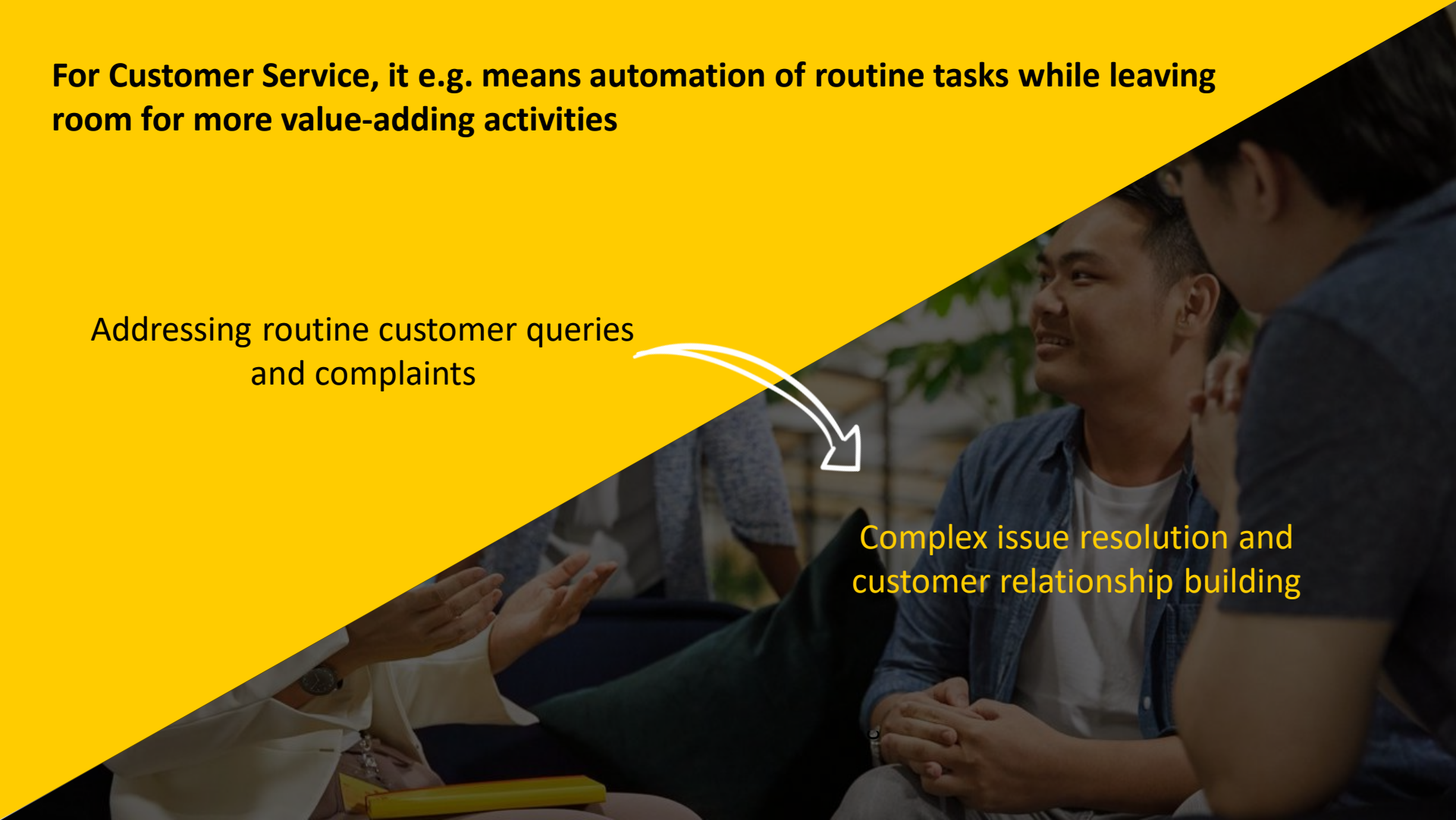
- Developing ad or campaign messaging ideas, personalized images and videos

**For Customer Service, it e.g. means automation of routine tasks while leaving room for more value-adding activities**

Addressing routine customer queries and complaints



Complex issue resolution and customer relationship building

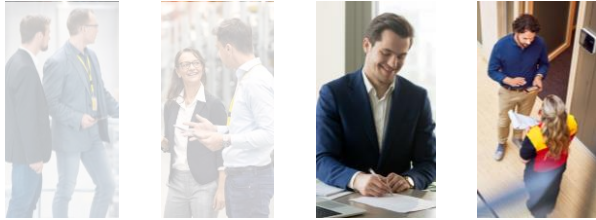


# Increased employee productivity will have impact on existing roles; additionally, with GenAI, new roles will be created

## Existing roles

### REDUCE

To achieve cost savings



### MAINTAIN

To cater for business growth



## New roles

### CREATE



Reskill

Downsize

Upskill to meet the new role requirements

Reskill  
existing  
employees

Hire

## Companies react differently to changes brought about by the new technology

### STOP HIRING


**IBM to pause hiring for ~30% of non-client facing employees<sup>1</sup>**

### LAY OFF

**Bild expects to lay off 20% of employees affected by AI<sup>2</sup>**

### RESKILL

**Ikea reskilled 8,500 call-handlers as interior design advisors and generated \$1.4 bn in revenue<sup>3</sup>**



A structured approach is necessary to make sure that managers can make an informed decision

1



2



3

---

**GenAI** will trigger **significant changes** in the workforce

**Management** needs to be equipped to be able to **make informed decisions**

**Structured approach** to address workforce changes is required





**02**

**HOW TO CHANGE**

# For any given entity/department, the process of evaluating GenAI impact and adjusting the workforce consists of 4 steps

**1**

**Identify affected roles**

- What existing roles will be affected the most?
- What new roles will emerge?

**2**

**Estimate headcount impact**

- What will be the HC impact for existing roles?
- How many employees will we need in new roles?

**3**

**Identify who to retain and up-/reskill**

- What employees have the highest potential for up- and reskilling?

**4**

**Support transition**

- What are required training measures?
- How can we help with transition to other roles in the organization or the open market?

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4

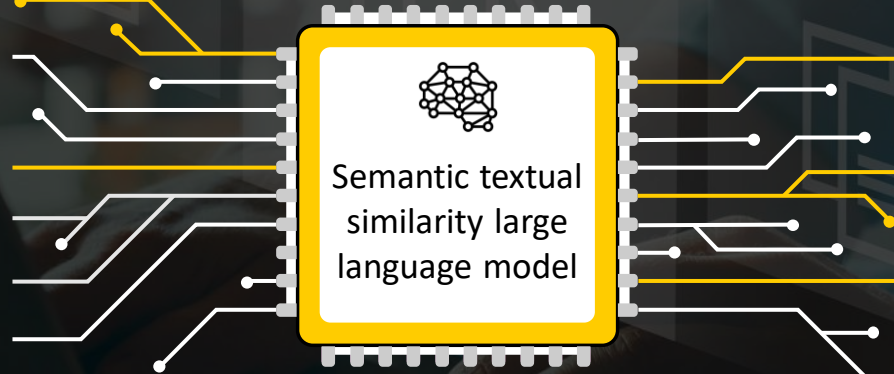
## Support transition

- What are required training measures?
- How can we help with transition to other roles in the organization or the open market?

A machine learning model can be used to calculate the GenAI impact score based on the similarity of tasks performed by employees and the GenAI

INPUT

- Roles and **tasks** per role
- Tasks that can be performed by GenAI



OUTPUT

GenAI Impact score  
(0-100%)

Calculates the similarity score for each employee task depending on how close its meaning is to the collection of GenAI tasks

# It requires a standardized job architecture, with clearly defined employee tasks and skills for each role

JOB FUNCTION/FAMILY/TITLE	KEY TASKS	SKILLS
<b>I. Customer Service</b> <b>a. Call center agent</b>	<ul style="list-style-type: none"><li>• Provide administrative support for inbound/outbound phone calls, emails, web-based chats/instant messaging</li><li>• Administer simple customer requests such as inquiries, orders, service requirements and complaints</li><li>• Undertake assigned tasks related to sales, service and customer satisfaction</li><li>• Perform generally repetitive routine tasks such as data gathering, entering and validation</li><li>• Adhere to standard operating procedures and processes within contact center</li></ul>	<ul style="list-style-type: none"><li>• CRM</li><li>• Data entry</li><li>• Complaints handling</li><li>• Account management</li><li>• Sales support</li><li>• Persuasion</li><li>• Empathy</li><li>• Adaptability</li><li>• Positive language</li><li>• Clear communication</li><li>• Effective listening</li><li>• Patience</li><li>• DHL Business knowledge</li><li>• Business processes</li><li>• Stakeholder management</li></ul>

## Impact score calculation

■ Not affected ■ Partially affected ■ Heavily affected

GenAI  
Impact Score

Call center agent



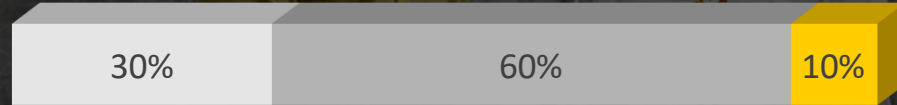
0.67

Call center manager



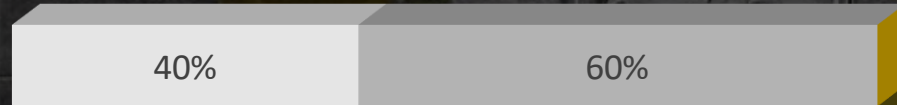
0.19

Customer success manager



0.4

Customer service manager

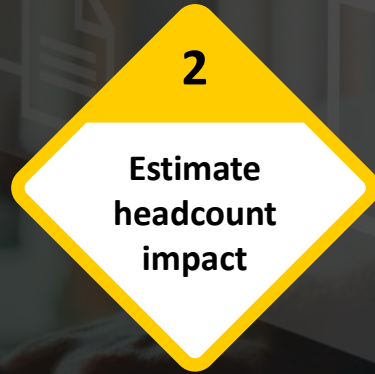


0.3

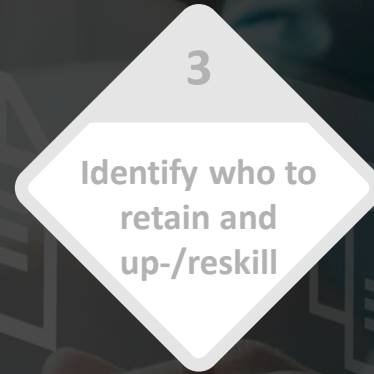
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- What will be the HC impact for existing roles?
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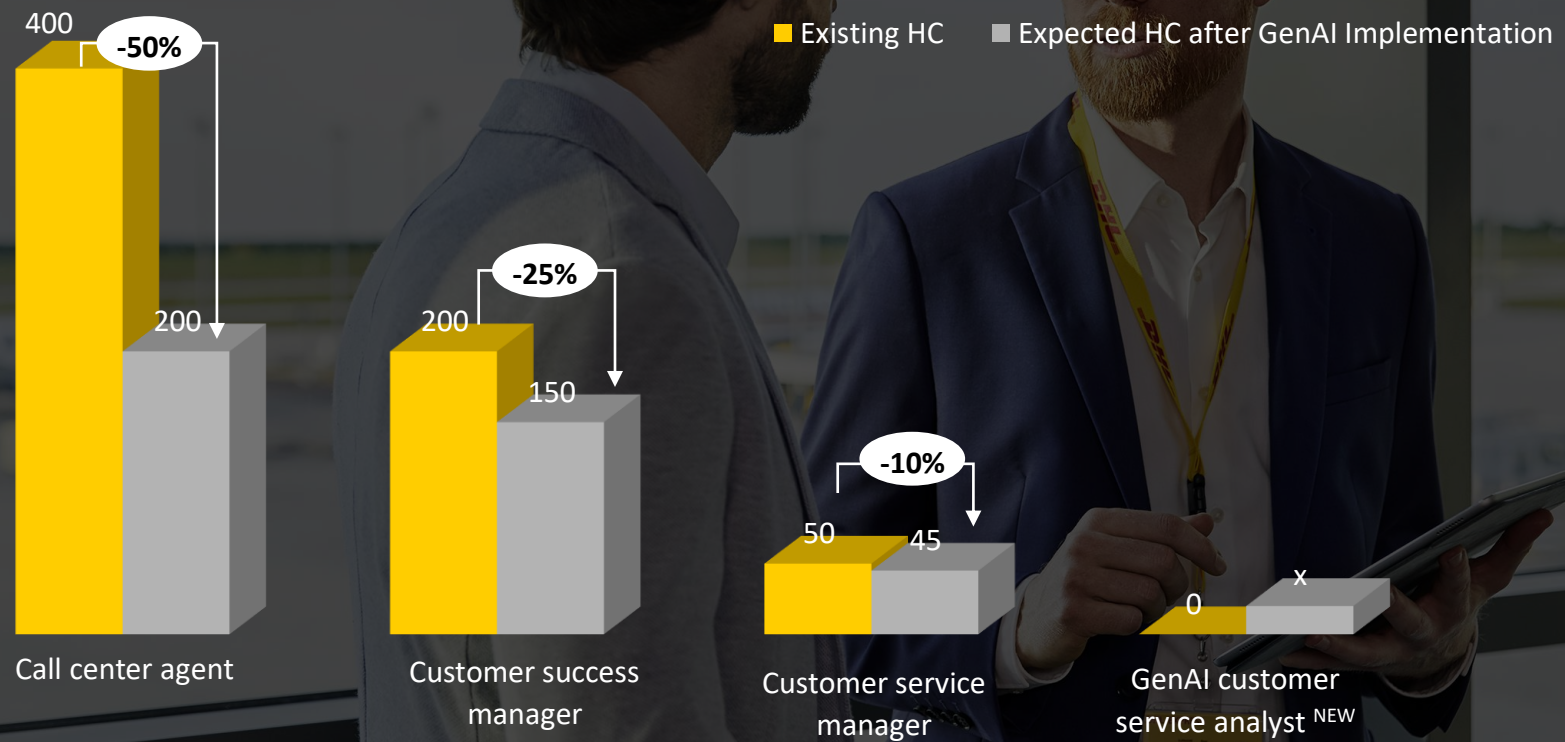


- What employees have the highest potential for up- and reskilling?



- What are required training measures?
- How can we help with transition to other roles in the organization or the open market?

# Headcount impact calculation

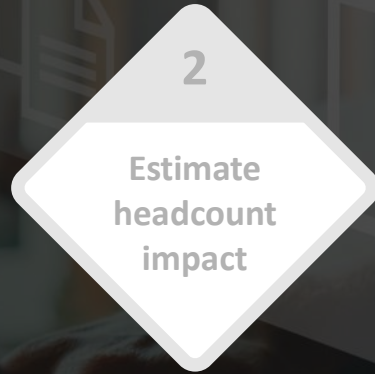




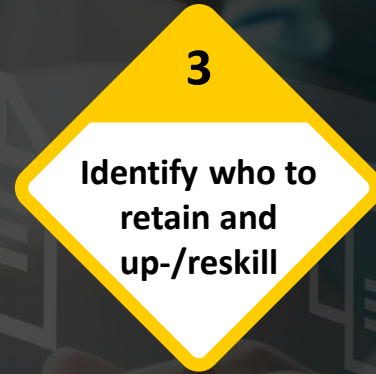
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- What existing roles will be affected the most?
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- What will be the HC impact for existing roles?
- How many employees will we need in new roles?



- What employees have the highest potential for up- and reskilling?



- What are required training measures?
- How can we help with transition to other roles in the organization or the open market?

To select a suitable path for each employee, it is necessary to understand their current skills, as well as their own ambitions, interests and motivation

## UNDERSTAND

- Current skillset
- Ambitions, interests, motivation



## CLASSIFY

- Stay in role but upskill for new requirements
- Reskill to existing or new role (possibly outside of customer service)
- Transition to external market

# Development Opportunities for a Call Center Agent




Call Center Agent


Score	Top Scored next career proposals
100%	Experienced Professional Contact Center
82%	Experienced Professional Customer Services
82%	Entry Professional Customer Services
78%	Entry Professional Shipping Documentation
78%	Experienced Professional Shipping Documentation
76%	Entry Professional Tele Sales
76%	Experienced Professional Tele Sales
73%	Entry Professional Sales
73%	Experienced Professional Sales
70%	Experienced Professional Payroll
70%	Entry Professional Payroll
69%	Experienced Professional Business Strategy & Planning
69%	Entry Professional Business Strategy & Planning
67%	Entry Professional Customer/Account Management
67%	Experienced Professional Customer/Account Management
66%	Experienced Professional Sales Planning & Effectiveness
66%	Entry Professional Sales Planning & Effectiveness
66%	Entry Professional Sales Administration/Sales Support
66%	Experienced Professional Sales Administration/Sales Support
65%	Experienced Professional Claims Management
65%	Entry Professional Claims Management
64%	Entry Professional Commercial/Pricing
64%	Experienced Professional Commercial/Pricing
64%	Entry Professional Billing

It requires an overview of actual employee skills and interests

Hi, Li Peng!

Recommendations are made based on your profile and preferences. [Update Career Profile](#)

 Your current Role  
Project Management – Specialist Professional Project Management  
[View Details](#)

→  Select a role which interests you and we can help you with a learning plan to get there.

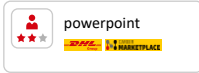


**Profile** Skills Passport Learning Queue Roles Jobs

Skills I want to develop ⓘ

analytics ●●● design thinking ●●● project manage... ●●● powerpoint ●●●

Profile **Skills Passport** Learning Queue Roles Jobs

Skills  
Skills that you have acquired during your learning journey

 powerpoint  
 project management  
 consulting

Profile Skills Passport Learning Queue Roles **Jobs**

**SmartTime Transition Senior Project Manager** ...  
📍 Bonn, Germany/Deutschland  
📅 Temporary  
Excellent match  
👤 Skills: project management, ★★★ budgets, +28 more

**Senior Project Manager** ...  
📍 Cyberjaya, Malaysia/Malaysia  
📅 Permanent  
Good match  
👤 Skills: project management, ★★★ +22 more

**Senior Project Manager** ...  
📍 Cyberjaya, Malaysia/Malaysia  
📅 Permanent  
Good match  
👤 Skills: project management, ★★★ +22 more

**Senior Project Manager** ...  
📍 Chennai, India/Indien  
📅 Permanent  
Good match  
👤 Skills: project management, ★★★ +28 more

## MODEL BENEFITS



- **Helps make an informed decision** on hiring freeze or restructuring needs
- Gives a **first indication** of suitable **up- and reskilling options**

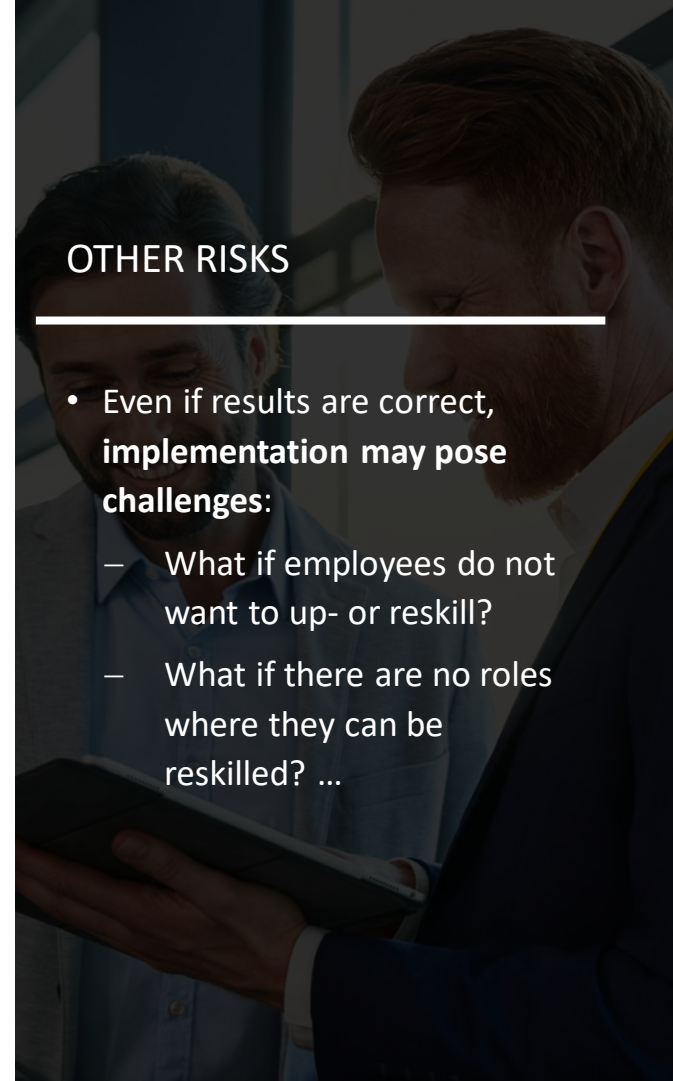
## LIMITATIONS



- It is only viable for companies with **transparent standardized job structure & holistic view of underlying tasks and skills**
- It cannot account for **unobservable factors** (e.g., willingness to learn)

## OTHER RISKS

- Even if results are correct, **implementation may pose challenges:**
  - What if employees do not want to up- or reskill?
  - What if there are no roles where they can be reskilled? ...





**03**

**KEY TAKEAWAYS**

## Key takeaways

- **GenAI** is coming and it will **disrupt the workforce**
- A structured approach is needed to make **proactive informed decisions**
- Having your **organizational data in order and knowing your employees** will be **paramount**



A group of four people are gathered in a meeting. A woman in a white blazer is speaking and gesturing with her hands. A man in a blue denim shirt is listening intently. A woman in a grey patterned cardigan is standing in the background. A large yellow circle is overlaid on the left side of the image. The text 'THANK YOU!' is written in large, white, bold, sans-serif capital letters across the center of the image.

**THANK YOU!**



BACKUP

# The ML model can be used to identify GenAI-affected roles across the entire job catalogue on an individual task level

## Model overview

- For each job role, the model will calculate a **score** indicating the **likelihood of the role to be “replaced” by GenAI based on individual job tasks**
- Higher score indicates **larger likelihood of role getting fully automated**

## How will the model work? (Current hypothesis)

  
Input

- **List of tasks** for all roles in the job catalogue
- Separate **collection of tasks** that can be partially/ completely **done by GenAI**

  
  
Analysis

- Model<sup>1)</sup> will calculate the score (between 0-1) for each task depending on **how close its meaning is** to the collection of GenAI tasks
- Overall score (between 0-1) will be calculated for each job role based on **combination of individual task scores**

  
  
Output

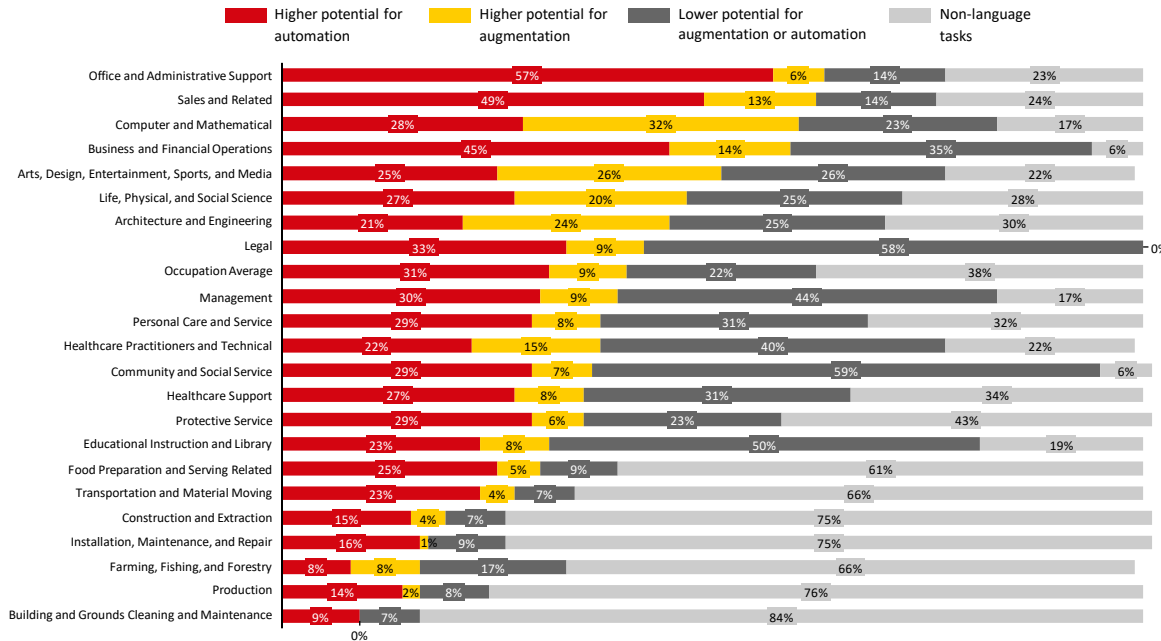
- **Score for each job role** indicating extent of GenAI impact
- **Aggregate view** to examine GenAI impact on entire legal entity
- **Dynamic impact on job roles** as GenAI capabilities and use cases evolve over time

Output mockup on next page

# Methodology of assessing GenAI impact by disaggregating jobs into individual tasks has also been followed in external research studies<sup>1)</sup>

## Work time distribution by major occupation and potential AI impact<sup>2)</sup>

Based on their employment levels in the US in 2021



- Approx. 200 tasks related to language were identified These tasks were linked to various job categories (accounting for share in each occupation and employment levels)
- Tasks with “Higher potential for automation” can be done by LLMs with minimal human involvement
- Tasks with “Higher/lower potential for augmentation” can be done by LLMs with substantial/partial human involvement respectively
- “Non-language tasks” cannot be done by LLMs

Source: 1) “A new era of Generative AI for everyone” – Accenture (Published May 2023); 2) Identification & classification of all tasks was done manually; 3) LLMs = Large language models

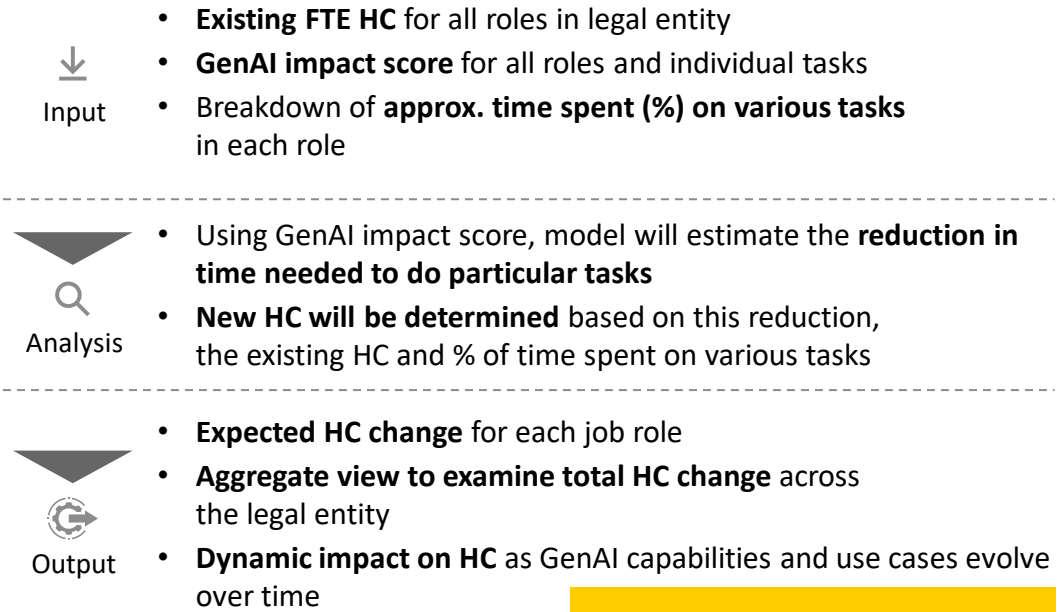


# Based on GenAI impact score, model can calculate change in headcount (HC) for all roles

## Model overview

- For each job role, the **model will calculate estimated HC change** based on:
  - GenAI impact score of the role and its individual tasks
  - % of time spent on each task of the role
- Higher **GenAI impact score** and **% of time spent on the task** will lead to a larger HC reduction
- Based on expected HC change, managers can **determine in which roles to continue/stop hiring**

## How will the model work? (Current hypothesis)



Output mockup on next page

Source: 1) Semantic textual similarity large language model (LLM); 2) ML = Machine Learning, FTE = Full Time Equivalent



Determine which employees to retain and upskill

# Employees to be retained and upskilled can be identified via a combination of model output and managerial judgment

## Model overview

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- **Retained employees need to be upskilled** to meet augmented role requirements
- Model provides **upskilling score** indicating **ease of learning specific skills** based on the employee's current skillset
- Managers need to **combine model output with self-judgment** to select which employees should be retained

## How will the model work? (Current hypothesis)

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Input

- List of **new skills that need to be learned** across all roles in job catalogue
- **Current employee skillset** (e.g., from Career Marketplace)



Analysis

- **Language model<sup>1)</sup>** analyses the similarity between target skill(s) to be learned and current skills of all employees
- Each employee is assigned a score (between 0-1) based on the **level of similarity between current and target skills**



Output

- **Ease of upskilling score** for all employees (Higher score indicates higher likelihood to retain)
- **List of adjacent skills** between target skill and job catalogue

# Predictive analytics model can be used to estimate headcount change due to natural workforce attrition

## Model overview

- For each role, the **model will estimate the reduction in FTEs** based on those:
  - **Leaving the DHL Group voluntarily** to join other companies
  - Close to **mandatory retirement age**
- **Future hiring plans** for all roles should be determined using the model output in combination with **current HC and business requirements** for augmented roles

## How will the model work? (Current hypothesis)

↓  
Input

- **Employee information** – Age, YoE, tenure in DHL Group, compensation, etc.
- **Historical employee attrition rates** for all roles
- Average and mandatory (if applicable) **retirement age** in entity

▽  
🔍  
Analysis

- Model can predict **# FTEs likely to leave voluntarily** based on past attrition rate and employee information
- Can estimate **# FTEs expected to retire** (based on legal regulations and historical retirement age)

▽  
🔄  
Output

- **Natural workforce attrition** across all roles - # FTEs expected to retire or leave voluntarily
- Possibility of identifying and addressing **roles/departments with higher-than-expected attrition**

# ML model can recommend suitable job roles considering the employee's skillset and skillset required for the role

## Model overview

- The model **recommends a list of job roles** to which the **candidate can be reskilled based on their skillset** and the skillset required by the role
- Each option is assigned a **role adjacency score** (between 0-1) indicating **similarity in skills** required for both roles
- High adjacency score signifies **ease of reskilling** for that role

## How will the model work?<sup>1)</sup>



Input

- List of skills and job codes** for all roles in job catalogue



Analysis

- Language model** calculates **skill adjacency score** for all skills in job catalogue
- Role adjacency score** (between current and target role) is calculated as a function of skill adjacency score (considering relative importance of different skills in a role)<sup>2)</sup>
- Jobs across the whole catalogue are **searched and ranked as reskilling alternatives** (accounting for seniority level)<sup>3)</sup>
- Algorithm determines **overlapping skills** as well as possible adjacencies between non-overlapping skills



Output

- List of alternative roles to reskill into** for all input roles
- List of overlapping and adjacent skills** between current and recommended role

Output example on next page

Source: 1) Similar types of models have been developed externally: a) LinkedIn Career Explorer, b) TalentNeuron (Gartner); 2) Skills are categorized into generic, core & unique core depending on whether they are commonly found across multiple functions, within a specific function & job family respectively. In role adjacency score calculation, overlapping skills are given different weights (unique core>core>generic); 3) Model only recommends roles at current or one level above current seniority level; 4) ML = Machine Learning

# ML model output example: “Entry Professional Contact Center” role in DHL

```

Job code 130.131.248
position name: Entry Professional Contact Center

Top scored next career step proposals:
Score 1.00 -- 130.131.238 Experienced Professional Contact Center
Score 0.82 -- 130.133.238 Experienced Professional Customer Services
Score 0.82 -- 130.133.248 Entry Professional Customer Services
Score 0.78 -- 300.321.248 Entry Professional Shipping Documentation
Score 0.78 -- 300.321.238 Experienced Professional Shipping Documentation
Score 0.76 -- 500.503.248 Entry Professional Tele Sales
Score 0.76 -- 500.503.238 Experienced Professional Tele Sales
Score 0.73 -- 500.500.248 Entry Professional Sales
Score 0.73 -- 500.500.238 Experienced Professional Sales
Score 0.70 -- 700.710.238 Experienced Professional Payroll
Score 0.70 -- 700.710.248 Entry Professional Payroll
Score 0.69 -- 100.103.238 Experienced Professional Business Strategy & Planning
Score 0.69 -- 100.103.248 Entry Professional Business Strategy & Planning
Score 0.67 -- 500.514.248 Entry Professional Customer/Account Management
Score 0.67 -- 500.514.238 Experienced Professional Customer/Account Management
Score 0.66 -- 500.509.238 Experienced Professional Sales Planning & Effectiveness
Score 0.66 -- 500.509.248 Entry Professional Sales Planning & Effectiveness
Score 0.66 -- 500.510.248 Entry Professional Sales Administration/Sales Support
Score 0.66 -- 500.510.238 Experienced Professional Sales Administration/Sales Support
Score 0.65 -- 150.151.238 Experienced Professional Claims Management
Score 0.65 -- 150.151.248 Entry Professional Claims Management
Score 0.64 -- 500.505.248 Entry Professional Commercial/Pricing
Score 0.64 -- 500.505.238 Experienced Professional Commercial/Pricing
Score 0.64 -- 200.215.248 Entry Professional Billing
  
```

## Overview

- Input role is a junior-level position in the **“Contact Center” job family** within the “Customer Services” function
- ML model recommends a **list of reskilling options** ranked from highest to lowest role adjacency score (from the same job family and outside of it)
- Managers need to identify which of the suggested options are **available in their legal entity and open to hire**
- When comparing reskilling options with similar role adjacency scores, need to **exercise subjective judgment** to determine ideal solution
  - E.g., take **employee preferences or non-measurable factors** (motivation, commitment to learn new skills, personal interests, etc.) into account



## When reskilling within the legal entity is not possible, various alternatives can be explored



Can employees be **transferred to other DHL legal entities in the same geography?**



Can employees be **transferred to the external labor market?** (E.g., partnership with other companies/labor organizations)



Can employees be **released with severance/early retirement** (considering legal regulations, worker unions, etc.)?



**Redundant employee costs need to be accounted in BCA for GenAI use cases in a legal entity**



# ML model provides the first indication of changes, but additional topics also need to be considered to make key workforce decisions

## What information does the ML model provide?

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- **Identification of critical tasks and roles** that will be heavily affected by GenAI
- **Estimate of required HC** in each role after GenAI implementation
- **Skill adjacency score for all employees** indicating ease of upskilling and likelihood of retention for augmented roles
- **Expected natural workforce attrition rate** across all roles
- **List of suitable reskilling options** within the legal entity for redundant employees based on their current skillset

## Which additional topics need to be considered?

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- When **deciding whom to retain/selecting reskilling options** for redundant employees, **account for subjective factors** based on the manager's observations such as:
  - **Personal drive** and **willingness to learn** new skills
  - **Career development** goals/areas of interests
  - **Commitment to contributing** to the DHL Group
- In order to achieve the above, some pre-requisites need to be met like:
  - **Enable mindset change** to pay **increased attention to personal development** of employees
  - Encourage managers to be **aware of employee skills beyond their role** (via career development talks, regular CMP profile updates, etc.)