

# Škoda AI Skill Coach

The Next-Generation Talent Intelligence System

**Team SAC**

42 PRAGUE HACKATHON 2025

# The \$8.5 Trillion Challenge

**87%**

of companies report skills gaps or expect them within a few years.

**\$8.5 Trillion**

in unrealized annual revenues globally by 2030 due to talent shortages.

**31%**

Only 31% of HR professionals believe their companies can effectively identify skill gaps.

## Sector Risk Comparison

Healthcare

Public Sector

Supply Chain

*Healthcare, public sector, and supply chains face disproportionate risk due to the skills gap.*

# The Problem: Skills vs. Data

## ⚠️ Current Pain Points

- **Silent Expiration:** Mandatory certifications expire without warning.
- **Visibility Gap:** Managers lack reliable skill visibility and rely on gut feeling.
- **Unclear Paths:** Career paths are undefined, leading to stagnation.
- **Manual Processes:** HRBP decisions rely on manual, outdated spreadsheets.

## ◎ What ŠKODA Needs

- **Unified Intelligence:** A single source of truth for all talent data.
- **Automated Risk Detection:** Proactive alerts before certifications expire.
- **Real-time Insights:** Live readiness data for instant decision making.
- **Long-term Forecasting:** Predictive analytics for future skill needs.

# Skills Evolve Faster Than Data

Traditional HR systems are static, reactive, and disconnected from reality.

- **Silent Expiration**

Mandatory certifications expire without warning, creating compliance risks.

- **Visibility Gap**

Managers rely on gut feeling rather than data to assess team readiness.

- **Reactive Planning**

Hiring happens only *after* a critical gap stops production.



# Multi-Role Intelligence

Three User Personas. One AI Brain.



## Manager

- Team Capability Dashboard
- Skill Risk Detection
- Promotion Readiness



## HRBP

- Department Benchmarking
- Org-wide Dashboard
- Strategic Planning



## Employee

- My Career Dashboard
- Personalized Career Paths
- Training Recommendations

# Five AI Engines



## Team Capability

Computes 6-dimensional capability vectors & team scores.



## Skill Risk Radar

Detects expiring certifications & missing training.



## Promotion Readiness

Weighted scoring based on skills & experience.



## Career Path (Azure AI)

Generates future roles with timeline predictions.



## 5-Year Forecast

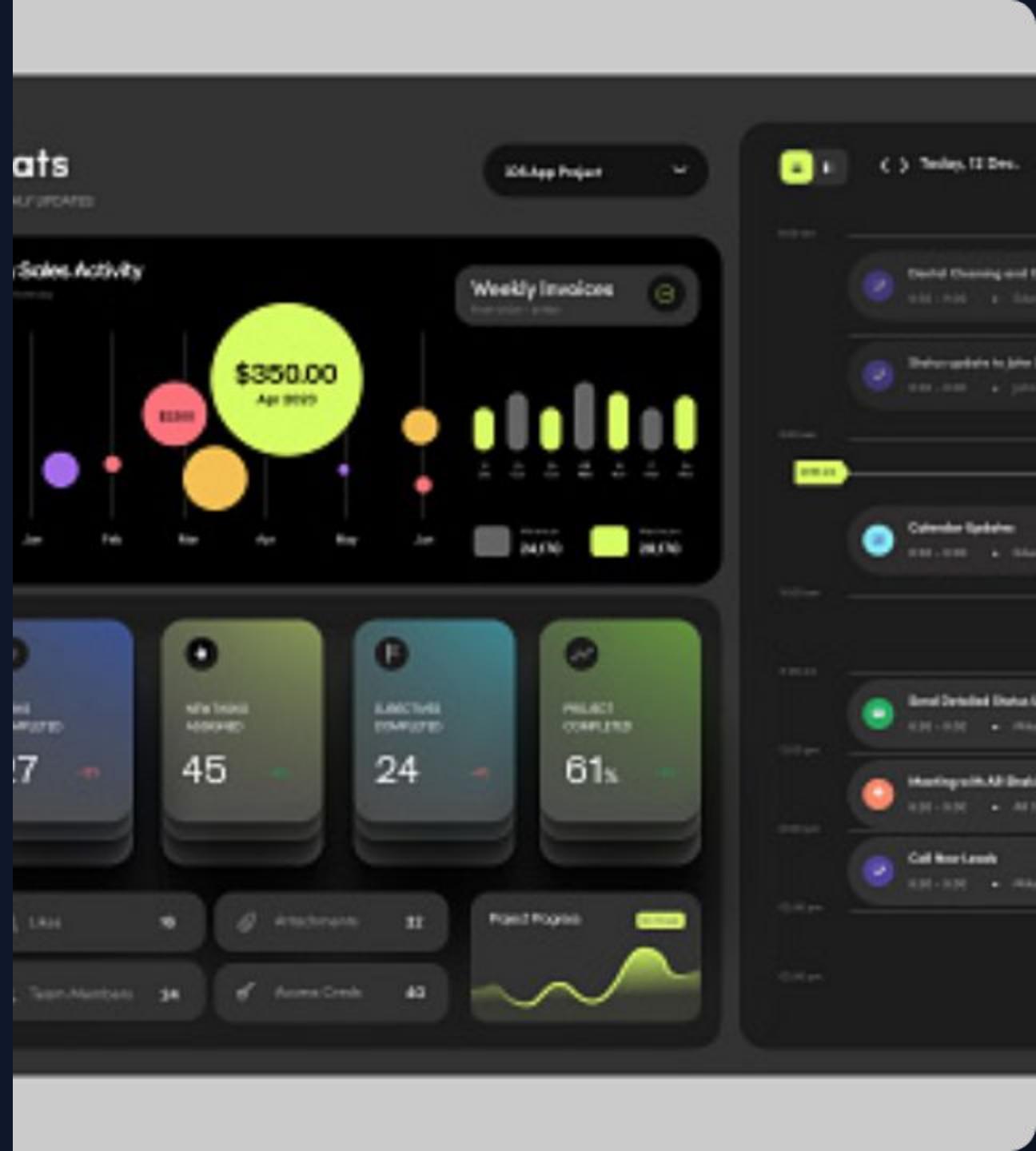
Predicts emerging & declining skills for planning.

# Live Intelligence Dashboard

Experience the future of talent management.

- ⚡ **Real-time alerts** for instant awareness.
- 🌐 **Interactive radar charts** for visual analysis.
- 🧠 **AI-driven recommendations** for actionable insights.

LAUNCH PROTOTYPE



# Enterprise-Grade Architecture



## Azure AI

Powered by GPT-4 for natural language queries and predictive logic.



## React & FastAPI

Modern, responsive frontend with a robust, scalable backend.

On FE we used: React, Vite, Tailwind CSS, Chakra UI  
On BE: Python, FastAPI



## Containerized

Docker & Kubernetes ready for secure, cloud-agnostic deployment.



## PostgreSQL

Reliable, structured data storage for thousands of employee records.

# From Reactive to Predictive

**-35%** Hiring Costs  
(Predicting Gaps Early)

**+25%** Retention Rate  
(Personalized Paths)

**15h** Saved Per Week  
(For HR & Managers)

*"Transforming HR from a support function to a strategic partner."*

# Built by Team SAC

**Aliyu Abdulbasit Ayinde** Lead AI Architect &  
System Engineer

**Sude Naz Karayıldırıım** Frontend Developer & UX  
Designer

**Ahmet Bakırcan** Frontend & UX Developer

**Takato Mitsuya** Data Analyst & Developer

**Sergiu Nica** Data Analyst & Developer

# Thank you

for your time.

Team SAC  
42 Prague Hackathon

Team Capability

Risk Radar

Promotion Readiness

Skills Heatmap

AI Assistant

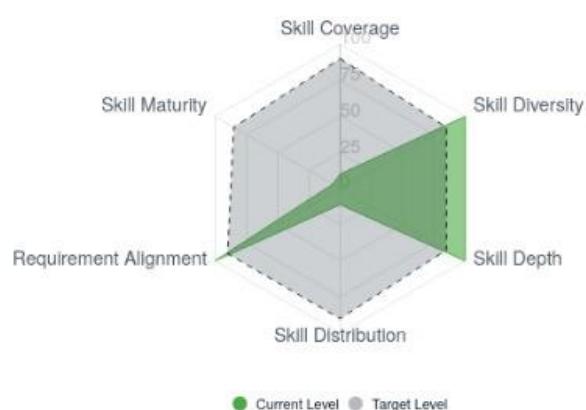
# Team Capability Dashboard

Team SE · 215 members · Updated just now



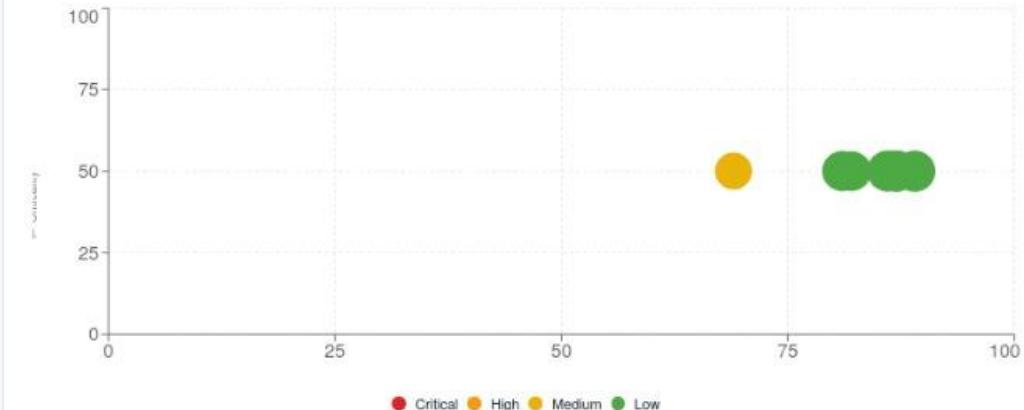
## Team Capability Profile

6-dimensional team strength assessment



## Skill Risk Matrix

Supply vs Criticality (bubble size = affected employees)



## Top 3 Recommended Actions

AI-ranked by impact and urgency

### Critical Address skill gap: Zivotni Prostredi Kategorie D (only 9.8% coverage)

+15% team capability · Complete within 30 days · Cost: TBD

[Take Action](#)

### High Address skill gap: Orientace Na Vysledky (only 16.7% coverage)

+12% team capability · Complete within 30 days · Cost: TBD

[Take Action](#)



Org Dashboard

Future Forecast

AI Assistant

## Cross-Department Skill Comparison

5 core competency areas across departments

Department	Technical	Leadership	Digital	Compliance	Innovation	Avg
Engineering	88	72	78	92	85	83
Manufacturing	75	88	65	95	70	79
R&D	92	68	82	78	90	82
IT	95	75	92	88	82	86
Quality	82	92	72	98	75	84

## Strategic Workforce Planning (2025)

AI-generated recommendations for org-wide talent strategy

Executive Summary



### Hiring Needs

- Q1 2025: 12 Cloud Architects
- Q2 2025: 8 AI/ML Engineers
- Q3 2025: 15 Cybersecurity Specialists



### Promotion Pipeline

- 18 employees ready for promotion
- 24 in development pipeline
- Est. promotion cost: 4.2M CZK



### Training Budget

- 2025 recommended: 12.4M CZK
- Critical skills: 6.8M CZK
- Leadership dev: 3.2M CZK



### Attrition Risk

- 24 employees high flight risk
- 8 key roles vulnerable
- Retention actions needed: 15

Team Capability

Risk Radar

Promotion Readiness

Skills Heatmap

AI Assistant

## Skill Risk Radar

AI-powered risk detection &amp; prevention - Team SE

High Risk

Immediate intervention required

196

Medium Risk

Monitor and plan actions

1

Low Risk

On track, no action needed

18

### Risk Radar Visualization



### High Risk Employees

 9186

Unknown Role

100%

- Certification 'Compliance 5 - Eticky kodex' expired 2130 days ago
- Certification 'Ridic motoroveho voziku' expired 7343 days ago
- Certification 'Bezpecnost prace - kategorie D' expired 4338 days ago
- Certification 'Pozarni ochrana na prac.pro zamestnance' expired 3844 days ago
- Certification 'Zaklady systemu rizeni kvality pro "D"' expired 4210 days ago
- Certification 'Zivotni prostredi - kategorie D' expired 4096 days ago
- Certification 'Hospodareni s energiemi - kategorie D' expired 3326 days ago
- Certification 'Bezpecnost prace - kategorie D' expired 3973 days ago
- Certification 'Zaklady systemu rizeni kvality pro "D"' expired 4149 days ago
- Certification 'Zaklady systemu rizeni kvality pro "D"' expired 3784 days ago
- Certification 'Zaklady systemu rizeni kvality pro "THZ"' expired 3017 days ago
- Certification 'Bezpecnost prace - kategorie D' expired 3610 days ago
- Certification 'Zivotni prostredi - kategorie D' expired 3608 days ago
- Certification 'Pozarni ochrana na prac.pro zamestnance' expired 3126 days ago
- Certification 'Zaklady systemu rizeni kvality pro "D"' expired 3412 days ago
- Certification 'Bezpecnost prace - kategorie D' expired 3244 days ago
- Certification 'Zivotni prostredi - kategorie D' expired 3244 days ago
- Certification 'ISMS System rizeni bezpecnosti informaci' expired 3226 days ago
- Certification 'Bezpecnost prace - kategorie D' expired 2880 days ago
- Certification 'Zivotni prostredi - kategorie D' expired 2879 days ago
- Certification 'Zaklady systemu rizeni kvality pro "D"' expired 2879 days ago
- Certification 'Hospodareni s energiemi - kategorie D' expired 2875 days ago
- Certification 'ISMS System rizeni bezpecnosti informaci' expired 2871 days ago
- Certification 'Compliance 2 - Eticky kodex' expired 2792 days ago
- Certification 'Compliance 1 - Boj proti korupci' expired 2435 days ago
- Certification 'Pozarni ochrana na prac.pro zamestnance' expired 2396 days ago
- Certification 'Bezpecnost prace - kategorie D' expired 2515 days ago





Team Capability

Risk Radar

Promotion Readiness

Skills Heatmap

AI Assistant

## AI Risk Predictions

9186

Certification 'Compliance 5 - Eticky kodex' expired 2130 days ago

- Impact expected soon

Critical

14607

Certification 'ISMS System rizeni bezpecnosti informaci' expired 6900 days ago

- Impact expected soon

Critical

15001

Certification 'ISMS System rizeni bezpecnosti informaci' expired 6535 days ago

- Impact expected soon

Critical

## Recommended Interventions

Ranked by risk reduction impact

#1

Certification 'Compliance 5 - Eticky kodex' expired 2130 days ago

Critical

Schedule

#2

Certification 'Ridic motoroveho voziku' expired 7343 days ago

Critical

Schedule

#3

Certification 'Bezpecnost prace - kategorie D' expired 4338 days ago

Critical

Schedule

#4

Certification 'Pozarni ochrana na prac.pro zamestnance' expired 3844 days ago

Critical

Schedule



My Career

AI Assistant

# My Career Dashboard

Personal development · Career progression - AI coaching

9



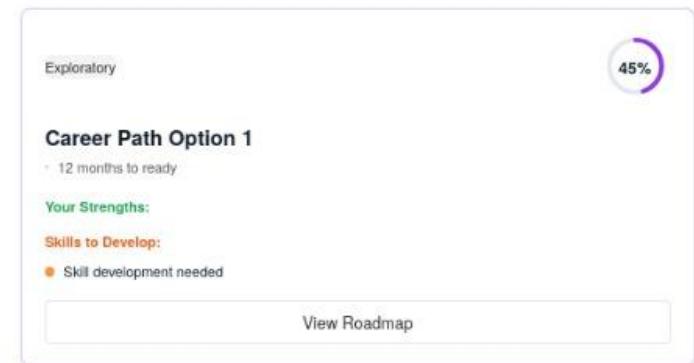
## Your Career Path Options

3 progression paths based on your skills and interests

Principal Engineer Recommended

**Unknown**

Current Position - L4

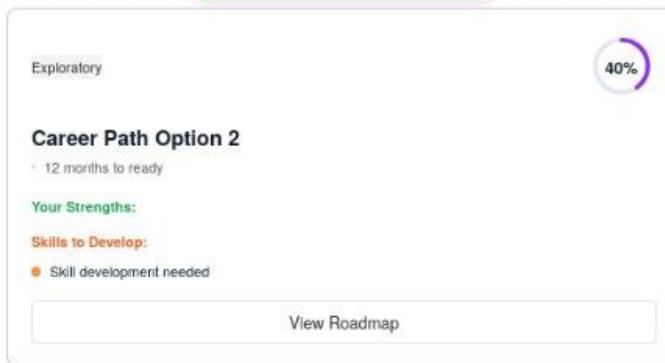


**Career Path Option 1**  
12 months to ready

**Your Strengths:**

**Skills to Develop:**  
Skill development needed

[View Roadmap](#)

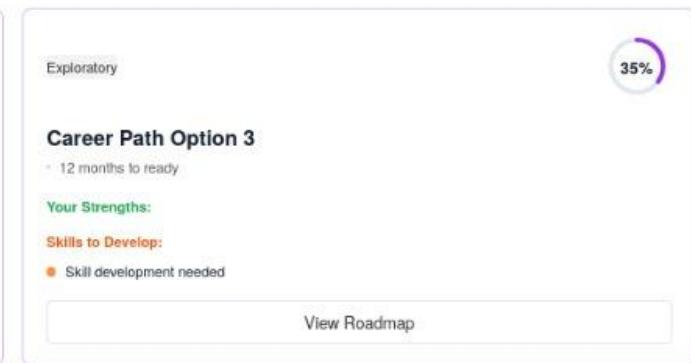


**Career Path Option 2**  
12 months to ready

**Your Strengths:**

**Skills to Develop:**  
Skill development needed

[View Roadmap](#)



**Career Path Option 3**  
12 months to ready

**Your Strengths:**

**Skills to Develop:**  
Skill development needed

[View Roadmap](#)

## Principal Engineer Readiness

Your progress toward target role

85% Ready

No skills data available

\* Team Capability

\* Risk Radar

**Promotion Readiness**

Skills Heatmap

AI Assistant

## Promotion Readiness

Team-wide promotion planning &amp; succession pipeline

Export PDF

Ready Now (&gt;85%)

0



In Progress (70-84%)

206



Needs Support (&lt;70%)

9



Avg Timeline

12.0

months

Search employees...

All Target Roles

All Readiness Levels

<input type="checkbox"/> Employee	Current Role	Target Role	Readiness	Timeline	Status	Key Gaps	Actions
<input type="checkbox"/> 14607	Unknown Role	Target Role	<div style="width: 79%; background-color: #ff7f0e;">79%</div>	12 months	In Progress		<span>⋮</span>
<input type="checkbox"/> 15001	Unknown Role	Target Role	<div style="width: 79%; background-color: #ff7f0e;">79%</div>	12 months	In Progress		<span>⋮</span>
<input type="checkbox"/> 15845	Unknown Role	Target Role	<div style="width: 79%; background-color: #ff7f0e;">79%</div>	12 months	In Progress		<span>⋮</span>
<input type="checkbox"/> 15902	Unknown Role	Target Role	<div style="width: 79%; background-color: #ff7f0e;">79%</div>	12 months	In Progress		<span>⋮</span>
<input type="checkbox"/> 16085	Unknown Role	Target Role	<div style="width: 79%; background-color: #ff7f0e;">79%</div>	12 months	In Progress		<span>⋮</span>
<input type="checkbox"/> 16210	Unknown Role	Target Role	<div style="width: 79%; background-color: #ff7f0e;">79%</div>	12 months	In Progress		<span>⋮</span>
<input type="checkbox"/> 16249	Unknown Role	Target Role	<div style="width: 79%; background-color: #ff7f0e;">79%</div>	12 months	In Progress		<span>⋮</span>
<input type="checkbox"/> 16687	Unknown Role	Target Role	<div style="width: 79%; background-color: #ff7f0e;">79%</div>	12 months	In Progress		<span>⋮</span>
<input type="checkbox"/> 16692	Unknown Role	Target Role	<div style="width: 79%; background-color: #ff7f0e;">79%</div>	12 months	In Progress		<span>⋮</span>



\* Team Capability

Risk Radar

Promotion Readiness

Skills Heatmap

AI Assistant

<input type="checkbox"/> 180159	Unknown Role	Target Role	69%	12 months	Needs Support	
<input type="checkbox"/> 606251	Unknown Role	Target Role	69%	12 months	Needs Support	
<input type="checkbox"/> 680265	Unknown Role	Target Role	69%	12 months	Needs Support	
<input type="checkbox"/> 612830	Unknown Role	Target Role	69%	12 months	Needs Support	
<input type="checkbox"/> 612874	Unknown Role	Target Role	69%	12 months	Needs Support	
<input type="checkbox"/> 180326	Unknown Role	Target Role	69%	12 months	Needs Support	
<input type="checkbox"/> 180348	Unknown Role	Target Role	69%	12 months	Needs Support	

### AI Promotion Recommendations

14607 → Target Role

Timeline: 12 months

[View Details](#) [View Career Path](#)

79% Ready

15001 → Target Role

Timeline: 12 months

[View Details](#) [View Career Path](#)

79% Ready

15845 → Target Role

Timeline: 12 months

[View Details](#) [View Career Path](#)

79% Ready

- Team Capability
- Risk Radar
- Promotion Readiness
- Skills Heatmap
- AI Assistant

## AI Assistant

Ask anything about skills, teams, gaps, predictions, and candidates

**Škoda AI Coach**

Powered by predictive intelligence

Online

Hello! I'm your Škoda AI Skill Coach assistant. I can help you analyze team skills, predict future gaps, compare departments, and identify candidates for specific roles. What would you like to know?

10:23

Ask about team skills, gaps, predictions, or candidates...



### Suggested Queries

Team Analysis

What are the critical skill gaps in Engineering team?

Show me employees at risk of qualification expiry

Which team members are ready for promotion?

Predictions

Forecast skill needs for Q2 2025

Predict attrition risk in next 6 months

What skills will be obsolete by 2026?

Comparisons

Compare Engineering vs Manufacturing skill coverage

Benchmark our AI/ML skills against industry

Show department skill heatmap comparison

### Deep Dive Analysis

**Succession Risk Analysis**

Identify vulnerable key roles

**Skill Atrophy Detection**

Find underutilized competencies

**Training ROI Analysis**

Measure course effectiveness

**Career Path Simulation**

Model employee progressions

