

AI & Quantum Roadmap for Slovakia's Business Centers

From efficiency to impact: deploy now, connect next, prepare for beyond.

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12th Annual Business Centers Conference · 15 October 2026 · Jurkovičova Tepláreň, Bratislava

NOW 2026-28

NEXT 2028-31

BEYOND 2031-36

DISCLAIMER

Before we begin



Personal views

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Forward-looking statements

This presentation contains forward-looking statements, including roadmap horizons, technology timelines and expected business impact. They reflect current expectations and assumptions, are subject to risks and uncertainties, and actual results may differ materially. They are not commitments, product roadmaps or investment advice, and I undertake no obligation to update them.

AI is already at work in Slovak business centers

34,836

people in 42 BSCF
member centers

90%

are implementing AI
solutions

55%

have trained over 70%
of staff in AI basics

29%

have over 70% of staff
using AI tools daily

Training is broad. Daily use is not yet deep. That gap is the next wave of value.

THE EFFICIENCY CEILING

Efficiency is the starting point. Impact needs targets.

36%

set no specific automation or AI targets for the next 2–3 years

88%

say AI and RPA are changing the skills they need

79%

see the rising cost of labor as a strategic issue

Three horizons take business centers from tasks to orchestration



*Indicative. Quantum timing depends on hardware, error correction, economics and proven advantage.

One connected technology portfolio

01

Enterprise AI

Copilots → RAG → agents

Agentic finance, HR, IT and customer workflows

02

Industrial AI

Vision → digital twins → physical AI

Remote analytics and support for the group's plants

03

Intelligent Optimization

AI → HPC → quantum optimization

Workforce scheduling, capacity and SLA planning

04

Cybersecurity

Zero trust → PQC → QKD

Protect the client data every center processes

05

Science & Engineering

AI simulation → quantum discovery

Engineering and R&D services for the group

06

AI-Quantum Convergence

AI for quantum → agentic quantum

Quantum skills and access via cloud services

From task automation to one governed end-to-end workflow

01

Baseline

Cost, cycle time, errors, SLA

02

Pilot

Prove value with a controlled cohort

03

Gate

Fund only if value beats risk and run cost

04

Scale

Reuse data, controls and agent patterns

05

Harvest

Report realized value in the P&L

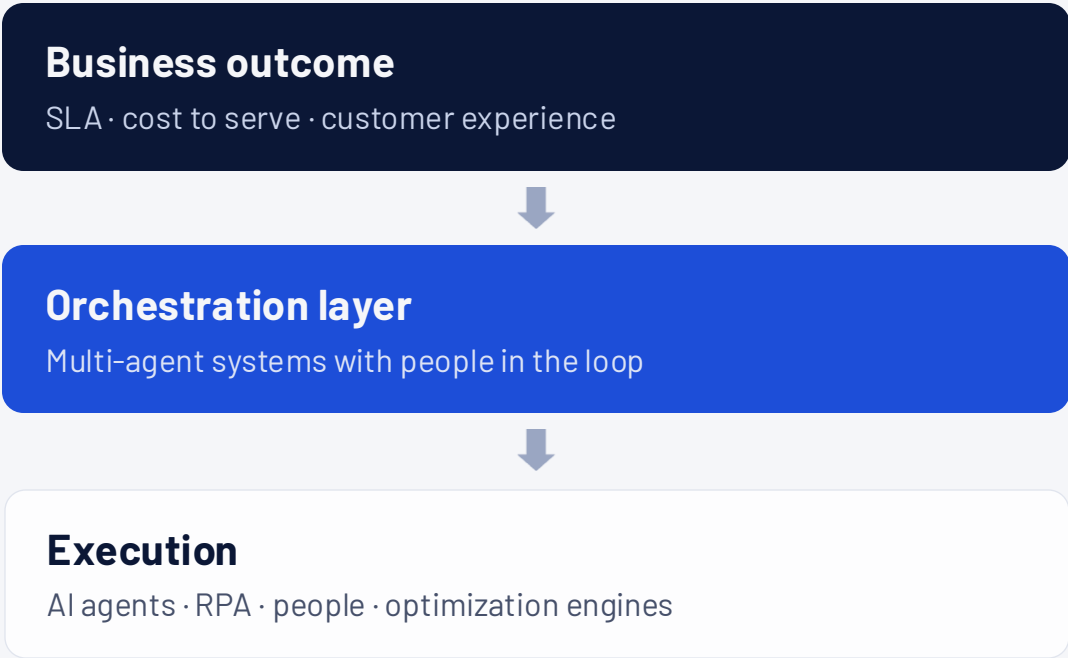
Best first moves for a business center

- Invoice-to-cash or procure-to-pay agents with human approval
- Knowledge assistants over policies, SOPs and client contracts
- Tier-1 IT and customer support with clear escalation rules

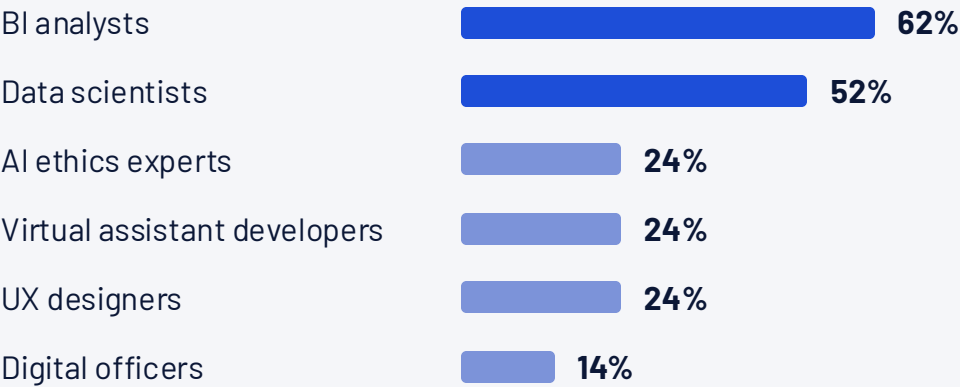
ROI TEST

(Annual benefit – run cost – risk reserve) ÷ one-time investment

From operations to orchestration



New roles centers foresee with AI/RPA



Skills in demand: adaptability 86% · critical thinking 81% · problem solving 78%

For business centers, quantum starts with security



Centers process the group's finance, HR and customer data. Data encrypted today can be harvested now and decrypted later.

NOW

Inventory cryptography and data lifetimes; build a PQC plan

NEXT

Crypto-agility and PQC migration; first quantum optimization pilots

BEYOND

Quantum-safe by design; quantum resources where advantage is proven

Expand quantum bets on triggers, not dates:

Proven business advantage

Economic viability

Operational readiness

CROSS-CUTTING ENABLERS

Five enablers decide whether pilots become advantage



Data & governance

Trusted process data, AI policy and human oversight



Cloud & hybrid infrastructure

Secure AI platforms with access to HPC and quantum cloud



Talent & skills

Reskill toward analysis, judgment and agent supervision



Ecosystem & partnerships

Universities, vendors, startups and EU networks



Sustainability

Energy-aware AI and efficient compute

Slovakia's edge: 63% university-educated, multilingual teams who can supervise AI across 20+ languages.

YOUR NEXT 12 MONTHS

Make value visible before you scale

0-90 DAYS

Baseline value

- Name an executive owner
- Size 3-5 workflows by value
- Set payback and stop criteria
- Start the cryptography inventory

3-6 MONTHS

Prove economics

- Measure against a control group
- Include run cost and adoption
- Stop weak cases quickly
- Close the training-to-usage gap

6-12 MONTHS

Scale winners

- Fund reusable agent platforms
- Report realized P&L impact
- Pitch new services to the group
- Ring-fence small quantum options

✓ Decision gate: scale only when value is **repeatable, controlled and attributable**.

CALL TO ACTION

Lead the AI transition. Shape Slovakia's quantum readiness.

1 • Deploy

one governed AI workflow with
board-level sponsorship

2 • Protect

critical systems with crypto-
agility and a PQC plan

3 • Partner

through BSCF to share use cases,
skills and experiments

THE FULL ROADMAP ON ONE PAGE

AI & Quantum Technology Roadmap for AmCham Slovakia companies

Six technology pillars. Three time horizons. One competitive strategy.

Practical today. Transformational tomorrow. Strategic for the future.

Scan the QR code or visit amcham.sk

AI & QUANTUM TECHNOLOGY ROADMAP FOR AMCHAM SLOVAKIA COMPANIES



Practical today. Transformational tomorrow. Strategic for the future.

SIX TECHNOLOGY PILLARS.

THREE TIME HORIZONS.

ONE COMPETITIVE STRATEGY.



THE 6 TECHNOLOGY PILLARS

1. ENTERPRISE AI Intelligent systems that augment and automate knowledge work.	<ul style="list-style-type: none">Generative AI & copilotsRAG & enterprise knowledgeAgentic AI for workflowsProcess automationResponsible AI & governance	<ul style="list-style-type: none">Multi-agent systemsAutonomous workflowsAdvanced reasoning agentsCross-system orchestrationHuman-in-the-loop at scale	<ul style="list-style-type: none">Self-improving autonomous agentsEnterprise-wide agent ecosystemsAI-driven innovation pipelinesAgentic Quantum Computing
2. INDUSTRIAL AI Intelligence in operations, factories, and physical environments.	<ul style="list-style-type: none">Predictive maintenanceComputer vision for qualityAnomaly detectionEnergy & resource optimizationIoT + AI integration	<ul style="list-style-type: none">Digital twinsAdvanced robotics & cobotsEdge AI in operationsReal-time optimizationAutonomous industrial systems	<ul style="list-style-type: none">Physical AI & full autonomySelf-optimizing factoriesAdaptive supply chainsAI + Quantum for complex ops
3. INTELLIGENT OPTIMIZATION Better decisions across supply chains, finance, and operations.	<ul style="list-style-type: none">AI for forecasting & planningHeuristic & ML optimizationInventory & logistics optimizationWorkforce & resource planning	<ul style="list-style-type: none">Advanced optimization enginesHybrid classical-HPC solutionsQuantum optimization pilotsReal-time decisioning at scale	<ul style="list-style-type: none">Quantum optimization at scaleNew classes of solvable problemsNetworked Quantum resourcesAutonomous optimization agents
4. CYBERSECURITY Securing today while preparing for quantum tomorrow.	<ul style="list-style-type: none">AI-powered threat detectionZero trust & identity securitySecurity automationPost-Quantum Cryptography (PQC) readiness	<ul style="list-style-type: none">Crypto-agility & PQC migrationQuantum Key Distribution (QKD) pilotsAI security agentsContinuous adaptive security	<ul style="list-style-type: none">Quantum communications networksQuantum-safe by designAutonomous security ecosystems
5. SCIENTIFIC & ENGINEERING COMPUTING Accelerating discovery and innovation.	<ul style="list-style-type: none">HPC & cloud simulationAI for simulation & analysisMaterials & process modelingSynthetic data generation	<ul style="list-style-type: none">Quantum chemistry pilotsAdvanced materials discoveryHPC + Quantum hybrid workflowsEngineering digital twins	<ul style="list-style-type: none">Fault-tolerant Quantum computingQuantum simulation at scaleAI + Quantum for discoveryBreakthrough R&D acceleration
6. AI-QUANTUM CONVERGENCE The intersection of AI and Quantum computing.	<ul style="list-style-type: none">AI for Quantum code generationQuantum-aware softwareUse-case identificationSkills & ecosystem building	<ul style="list-style-type: none">AI-optimized Quantum circuitsHybrid AI + Quantum pipelinesAutonomous calibration & error mitigationAccess via cloud services	<ul style="list-style-type: none">AI discovers Quantum algorithmsAutonomous Quantum experimentsHeterogeneous compute orchestration (CPU/GPU/HPC/QPU)Agentic Quantum Computing

CROSS-CUTTING ENABLERS (ACROSS ALL HORIZONS)

DATA & GOVERNANCE Trusted data, privacy, and compliance	CLOUD & HYBRID INFRASTRUCTURE Elastic, secure, sustainable	TALENT & SKILLS AI & Quantum literacy, new roles	ECOSYSTEM & PARTNERSHIPS Industry, academia, startups, global networks	SUSTAINABILITY Green IT and responsible innovation
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THE BUSINESS IMPACT
Higher productivity • Smarter decisions • Stronger security
Innovation leadership • Sustainable growth for Slovakia

TAKE ACTION TODAY
Start with high-impact AI use cases, build readiness, and prepare for the Quantum future.
The competitiveness of Slovakia depends on it.

Let's build the future — together.
amcham.sk

Roadmap horizons are indicative and may evolve with technology and market developments.