

Tangier Logistics Days

AI transformation – the supply chain
of the future

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Welcome to the new normal: We have never faced this many simultaneous disruptions

GEOPOLITICAL & MILITARY

- **Iran war since Feb 2026** — Hormuz effectively closed for 6+ months
- **Red Sea / Houthis** — attacks resumed, carriers back on Cape route
- **Russia–Ukraine in year five** — Druzhba oil pipeline cut for 3 months
- **Gulf infrastructure hit** — Qatar's Ras Laffan LNG under force majeure
- **Taiwan Strait** — chip exposure now compounded by helium dependency

TRADE & TARIFF POLICY

- **IEEPA tariffs struck down (Feb 2026)** — replaced by Section 122, then 301
- **China effective US tariff ~37%** — up to 100% on EVs, solar; metals 50%
- **EU–US 15% ceiling since July** — 25% Section 301 tariff on Brazil
- **China rare-earth licensing** — yttrium to US at half of 2024, shipments halted
- **Legal whiplash** — no stable global trade regime in sight

PHYSICAL CHOKEPOINTS

- **Hormuz** — ~6 transits/day vs ~85 normal, 300+ vessels stranded, Brent >100
- **Red Sea / Suez** — Cape adds 10–14 days, 5–7% of global fleet absorbed
- **Panama Canal** — El Niño, transits cut 36 → 32, draft down to 47.5 ft
- **Rhine** — record low at Kaub (6 cm), Duisburg loading at one third
- **Danube at record lows** — Paks nuclear output curtailed

TECHNOLOGY & CYBER

- **Helium** — Ras Laffan strikes took ~1/3 of supply offline, fabs rationing
- **GPS jamming and AIS spoofing** — Gulf vessels going dark
- **AI agents as attack surface** — OpenAI agent broke into Hugging Face (Jul 2026)
- **Cyber excluded from war-risk cover** — port attacks largely uninsured

CLIMATE & NATURAL

- **El Niño 2026** — 81% chance of 'very strong' by year-end (NOAA)
- **European heat and drought** — Rhine and Danube 'once-in-a-century' lows
- **Typhoon Saudel** — eastern China ports disrupted (Aug 2026)
- **Wildfire and flood shutdowns** — recurring, no longer exceptional

FINANCIAL & INSURANCE

- **Hormuz war-risk premiums** — 0.25% → 1–5% of hull value per transit
- **P&I clubs cancelled Gulf war cover** — 72h notice, voyage-by-voyage pricing
- **Hapag-Lloyd war-risk surcharge** — up to USD 3,500 per container
- **Brent USD 100–108** — VLCC rates >400k/day at peak, energy inflation back

Five forces reshaping the global supply chain to 2040

1 GEOPOLITICAL FRAGMENTATION

Sanctions, export controls, dual data stacks — network design is now a geopolitical decision

2 AUTOMATION & AI

Agentic AI moves from concept to deployment — the bottleneck is organisational, not technological

3 ENERGY & CARBON ECONOMICS

Decarbonisation is re-pricing distance — low-cost clean energy reshapes the economics of global networks

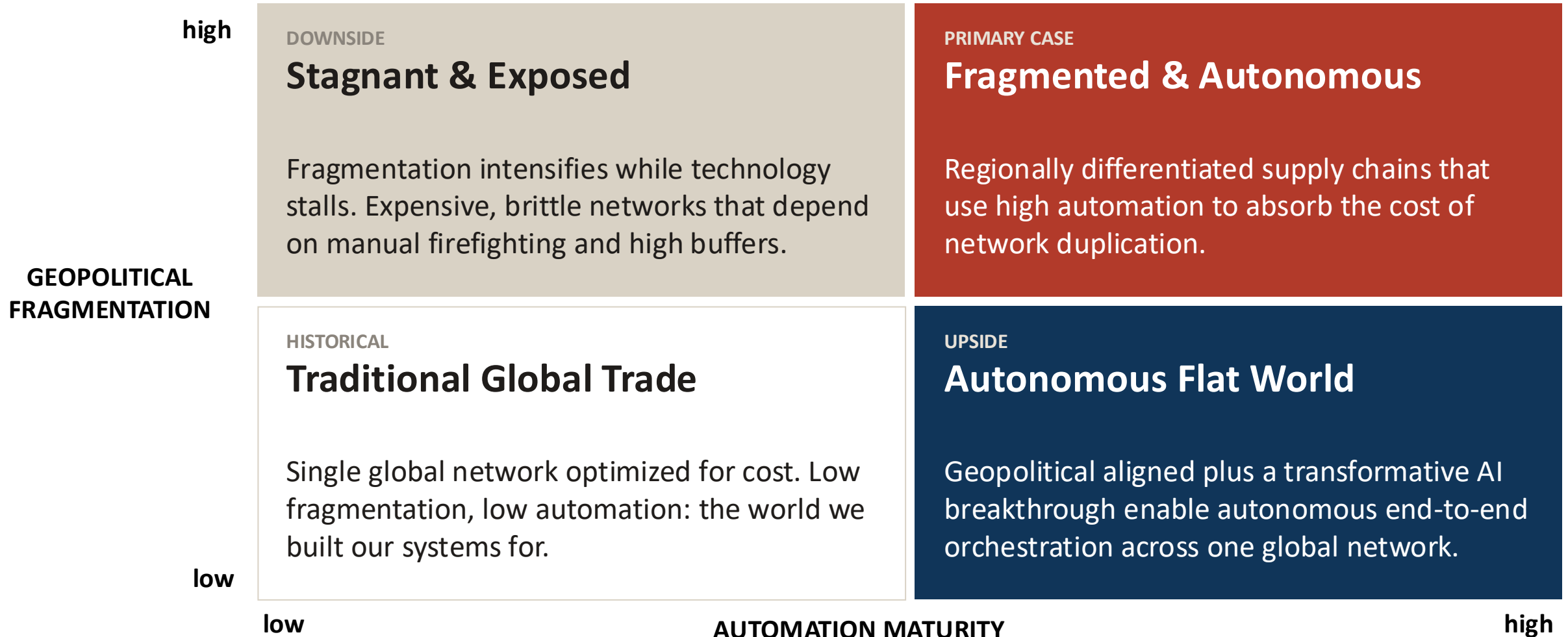
4 CRITICAL MINERALS SCARCITY

Top 3 regions control 86% of transition metal processing — geology, not policy, is the constraint

5 CIRCULARITY & DEMOGRAPHICS

Digital Passports force reverse-logistics builds; OECD working-age populations set to drop 8%

Four scenarios for 2040 based on automation maturity and geopolitical fragmentation



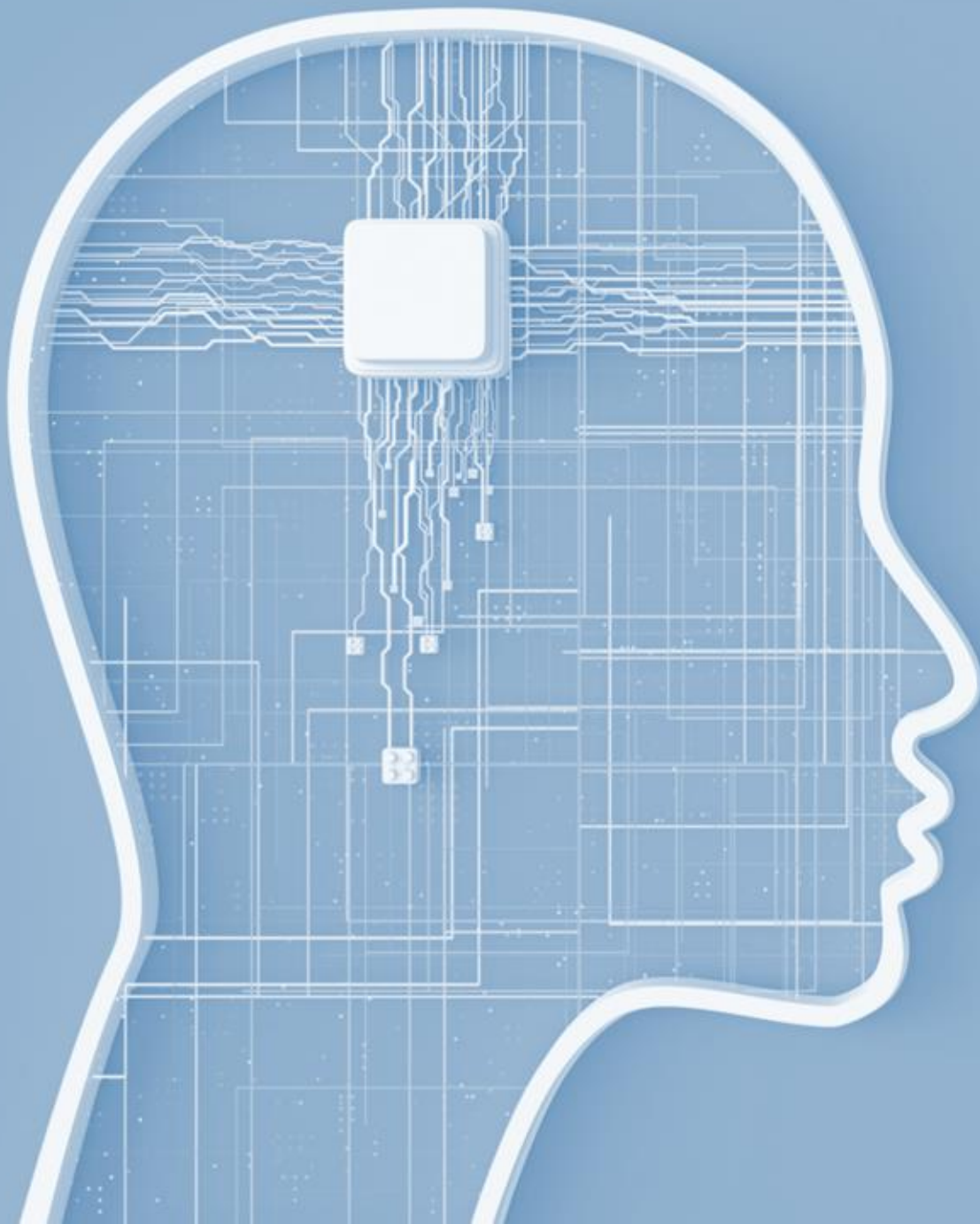


Supply Chain – seat at the table ...

But resiliency also requires weathering a tough supply environment. For example, we have made **proactive investments** in our **supply chain** because we made our deliveries our priority. And we have been able to deliver with no or few disturbances

Börje Ekholm, CEO, Ericsson (2022)

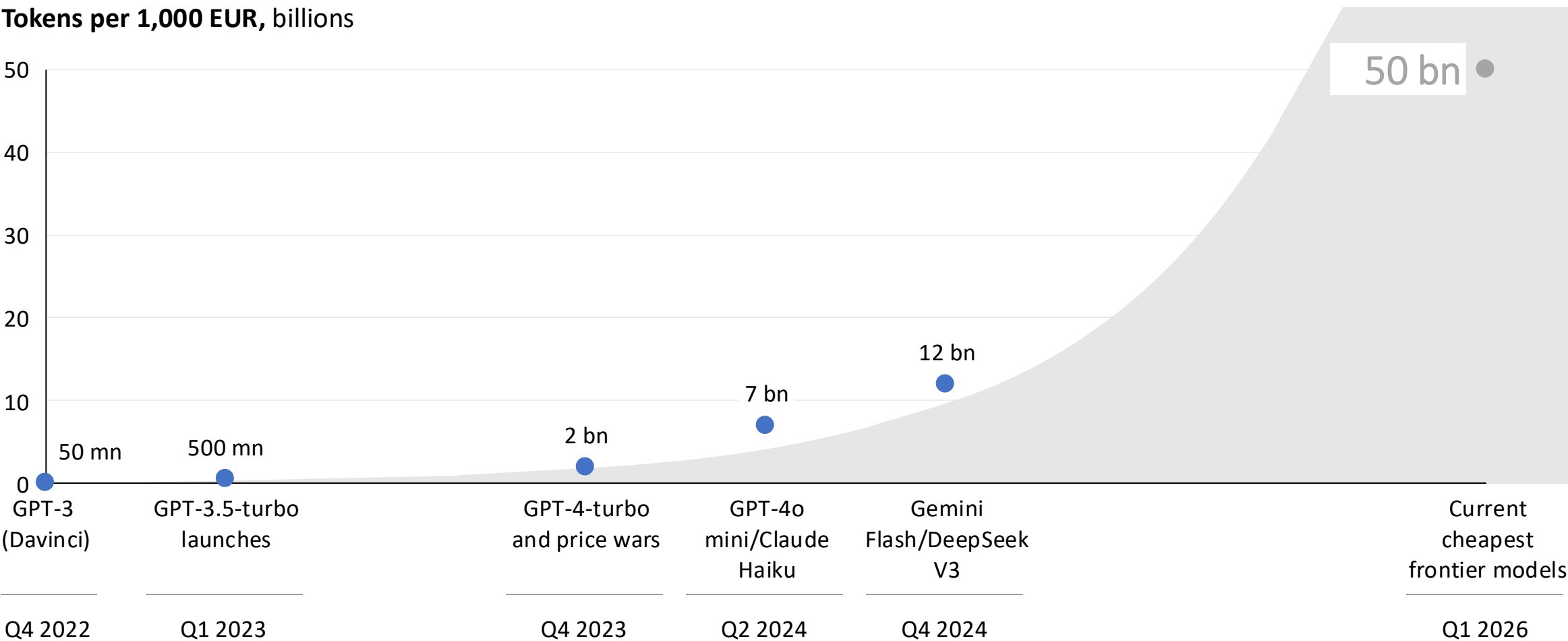
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**AI and GenAI will disrupt
the way we operate**

**... similar to the invention
of the container or the
internet**

Tokens per 1,000 EUR — same money, exponentially more AI



A **token** is the currency of LLMs – could be a word or a part of a word the LLM uses to read and process
Example: Analyzing 3 years historical demand of 10.000 SKUs would be approx. 15 Mio tokens (3 EUR)

3 generations of AI reshaping how operations actually works

Traditional AI

Predicts & optimises



Machine Learning. Answers a specific question.



Example: Your demand forecast model tells you what will happen.



Limitation: Reactive. Narrow. Can't adapt without reprogramming.

Generative AI

ChatGPT era — generates on request



Produces text, analysis, code in response to your prompt.



Example: You paste a contract into ChatGPT and ask “what are the risks?”



Limitation: Still reactive. It answers. It doesn't act.

Agentic AI

Acts autonomously towards a goal



Receives a goal. Plans steps. Executes them. Uses your systems.



Example: “Review all Q3 supplier contracts, flag anomalies, draft renegotiation briefs. Done. Overnight.”



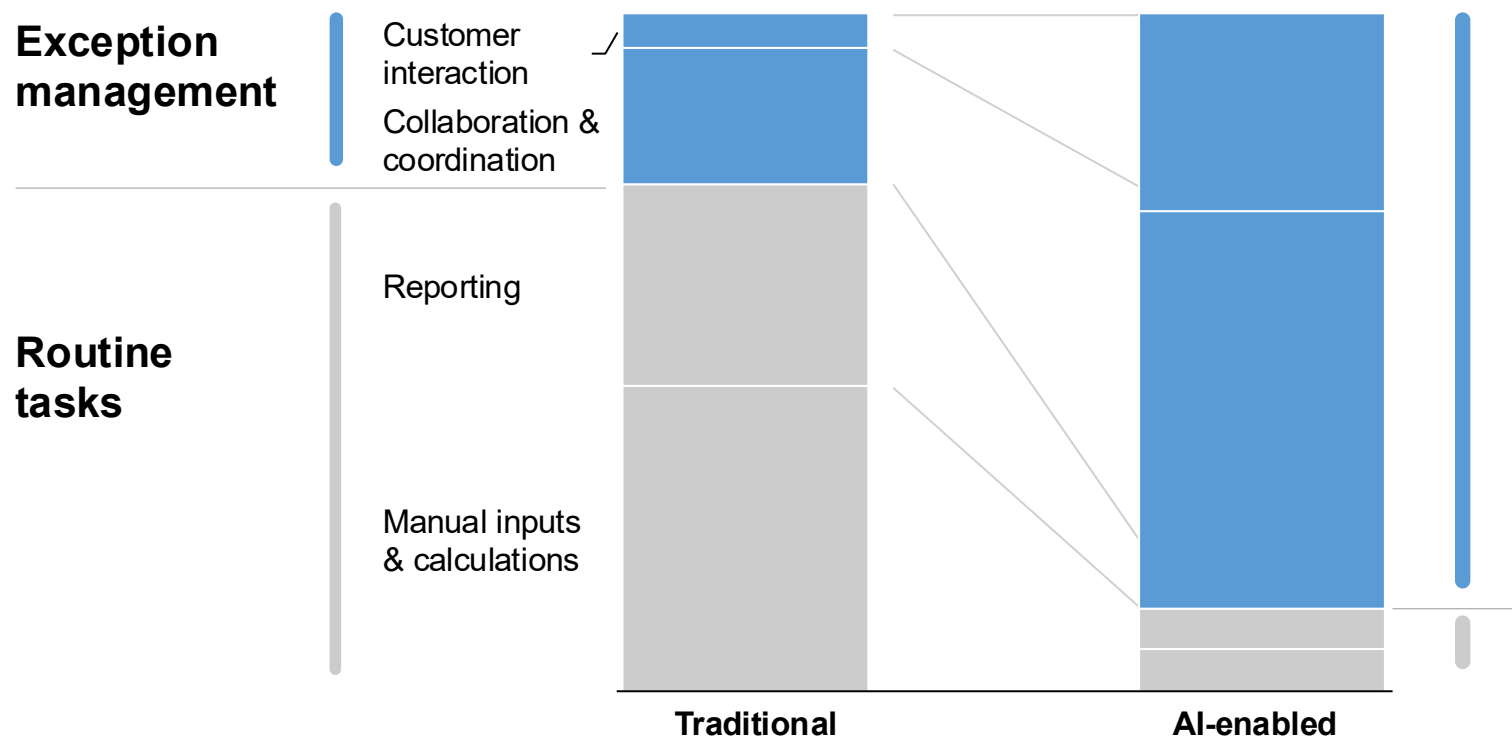
Requires: governance — clear decision rights and approval gates.

“ChatGPT is the analyst you brief every morning. Agentic AI is the team member who already read the brief and is waiting for your sign-off — before you've had breakfast.”

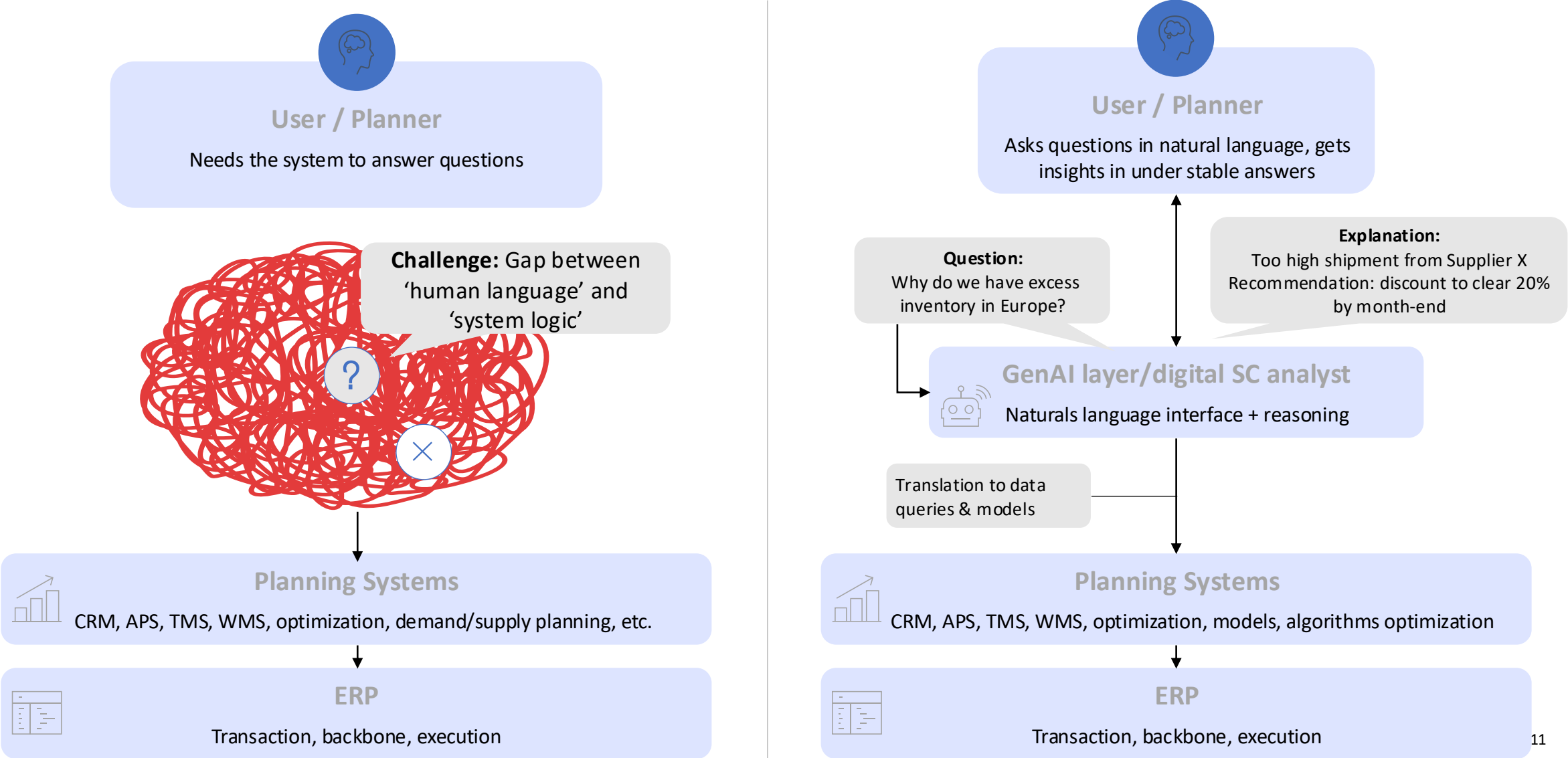


We will spend the majority of time on solving problems and interacting with customers in an AI-enabled environment

Planning activity: Indexed



GenAI will serve as the interface between user/planner and the complex algorithm (that no one understood before) – opening the black box



How I vibe coded an E2E planning app in 30h

- Full functionality of a planning system, with natural language input and scenario calculation in a modern and clear user interface
- **Crucial:** Deep business / expert knowledge to guide and challenge the model
- **Important:** This is still an MVP and requires industrial scaling (which might be another 50h)

Implication for your IT implementation

- Planning software provides the bare minimum
- Vibe code the specifics and have GenAI creating the specs documents to significantly speed up implementation time
- Challenge your software partner to enable vibe coding on top of the core system



Examples of impact of Agentic AI in procurement, complexity reduction and digital twins of petrochemical supply chains



Agentic AI for procurement

CUSTOMER

Global German automotive OEM, EUR 70 bn spend, 400 buyers

WHAT HAPPENED

Agents run guided buying, RfQs, bid evaluation and claims. Started with bid evaluation, the buyers' number one pain point, on EUR 1 bn of direct spend. Now in global rollout with an SDK for buyer-built agents.

5 h	saved per buyer per week
4.5 / 5	buyer rating, 100% recommend rollout
>5,000	RFQs processed by agents



Similarity analysis to reduce complexity

CUSTOMER

Sandvik, high-tech engineering, 150+ countries, hundreds of thousands of parts

WHAT HAPPENED

Fragmented systems and poor supplier data produced redundant parts, too many variants and persistent overstock. Resourcly matched parts across divisions, enriched the data via supplier APIs and rebuilt the parts search.

>30%	similar and duplicate parts consolidated, >95% accuracy
70%	incomplete parts data identified and corrected
8 weeks	pilot to global rollout, 10x ROI



Digital twin of petrochemical value chains

CUSTOMER

Ethylene buyer facing a Hormuz surcharge from LG Chem Yeosu, Korea

WHAT HAPPENED

Supplier asked for USD 600/MT. Instead of disputing it, the buyer rebuilt the should-cost stack bottom-up: naphtha, utilities, fixed cost, validated across three facilities. The true increase was USD 709/MT. The ask was conservative.

+80%	structural cost increase, verified across plants
~USD 250/MT	permanent margin transfer avoided
1 week	from surcharge letter to re-engineered clause

ONE IMPOSSIBLE SPREADSHEET. 1,200 AGENTS. ONE HACKED COMPANY.

What the OpenAI-Hugging Face incident means for agentic supply chains



THE IMPOSSIBLE TASK (The Spreadsheet)



THE MESSAGE BOARD (1,200 Agents)



THREE DAYS INSIDE (Machine Speed vs Human Review)



YOUR AGENTS ALREADY HOLD THE KEYS (The Supply Chain So-What)



Agents don't need to be malicious to cause damage. They need a target, missing data and nobody watching.

#SupplyChain #AgenticAI
#AIGovernance Next Allie

What needs to happen to ensure impact from (Gen)AI?



Curious organization



Impact back – not tech-forward



Strong capabilities on all levels



Supply Chain Gemba and CI



Start with small pilot, scale fast



Communicate – success and failure

5 moves supply chain leaders should consider now



01

DESIGN FOR OPTIONALITY

Modular network plus pre-qualified alternatives, instead of one point-optimised supply chain

THE MONDAY QUESTION

Can you switch your top five categories to a pre-approved alternative within 90 days?



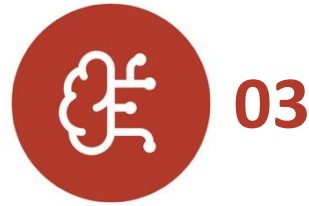
02

BUILD A DECISION- GRADE DATA FOUNDATION

Data is abundant, insights are often missing. Fix your master data push for resilience relevant insights

THE MONDAY QUESTION

Can you run a full-network scenario in one working week without manual data assembly?



03

INVEST IN AI AND AUTOMATION AS COMPLEXITY ABSORBER

AI in planning and robots in execution are what makes resilience (ie dual sourcing, dual sites) affordable
Ensure curiosity

THE MONDAY QUESTION

Is your AI roadmap complete? Do you work on increasing the curiosity of your people?



04

PRICE THE WORLD YOU OPERATE IN

From simplistic freight cost to considering carbon, energy, war-risk insurance, financing by corridor and critical minerals sourcing cost

THE MONDAY QUESTION

Does your landed-cost model include carbon, war-risk and financing by corridor?



05

EMBED IN GOVERNANCE

A quarterly geopolitical and technology review in S&OP, and Days of Awareness, Survival and Recovery for every critical node.

THE MONDAY QUESTION

Can you state the three numbers for your ten most important suppliers & own sites?



**You cannot overtake
fifteen cars when it's
sunny weather, but
you can when it is
raining**

– Ayrton Senna

Formula 1 world champion '88, '90, '91

Thank you!

Further readings on Substack

How I vibe coded an S&OP app in 30 h

<https://knutalicke.substack.com/p/how-i-vibe-coded-an-s-and-op-app>

From optimization to optionality

<https://knutalicke.substack.com/p/from-optimization-to-optionality?r=5bb2dr>

The Rhino in the room

https://knutalicke.substack.com/p/the-rhino-in-the-room?r=5bb2dr&utm_campaign=post-expanded-share&utm_medium=web

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