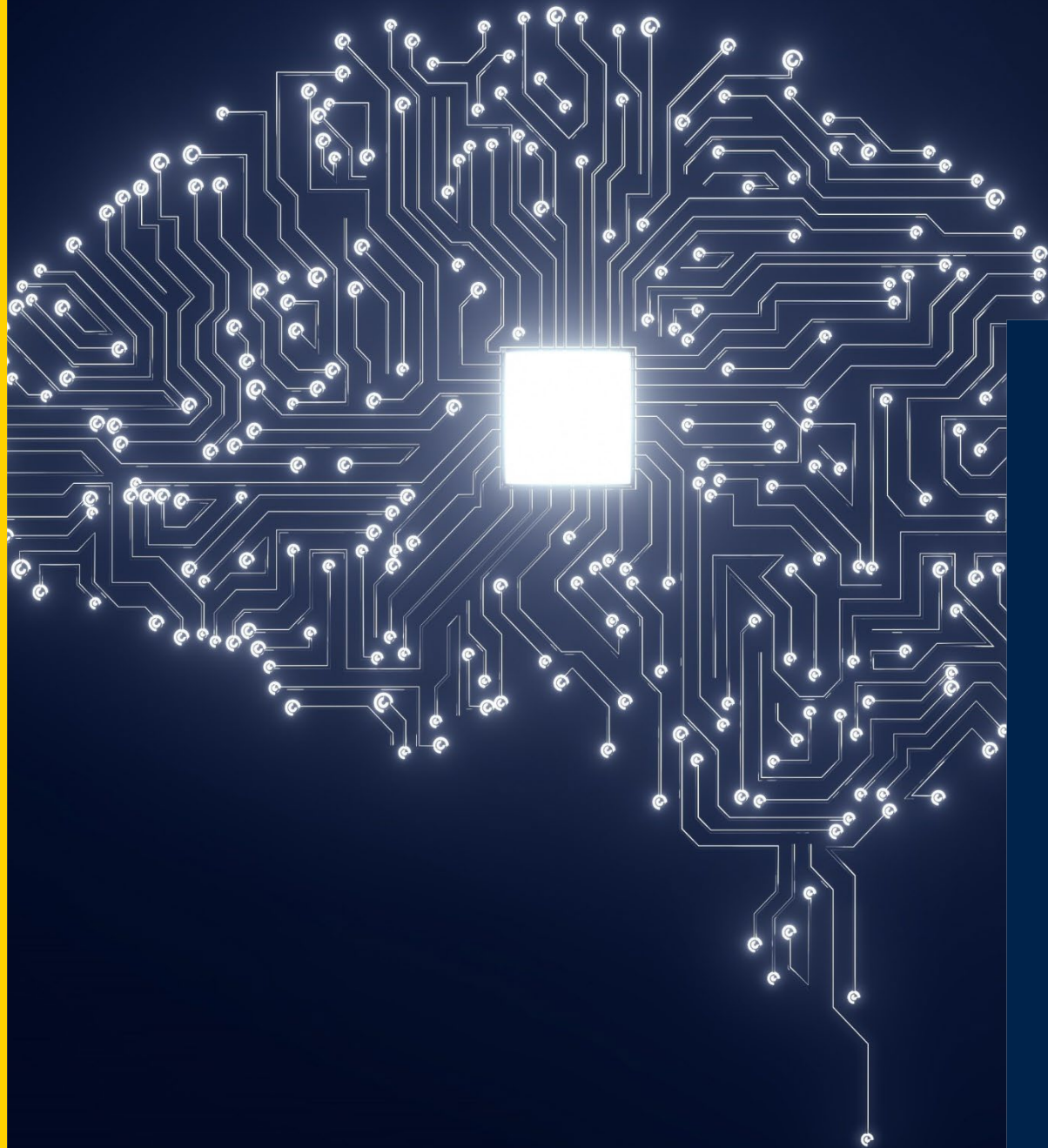




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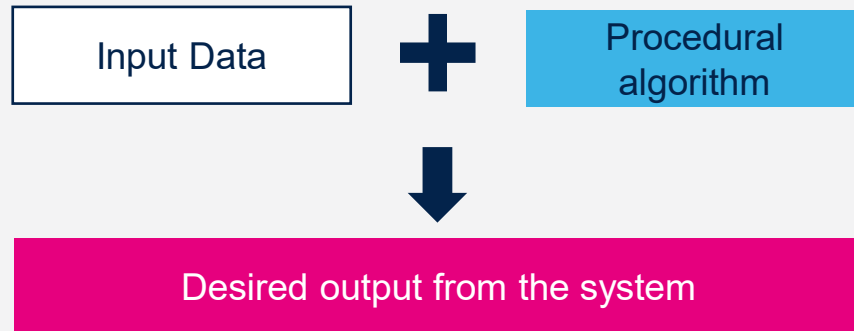
Artificial Intelligence solutions running on STM32



A new way to add environment awareness to your products

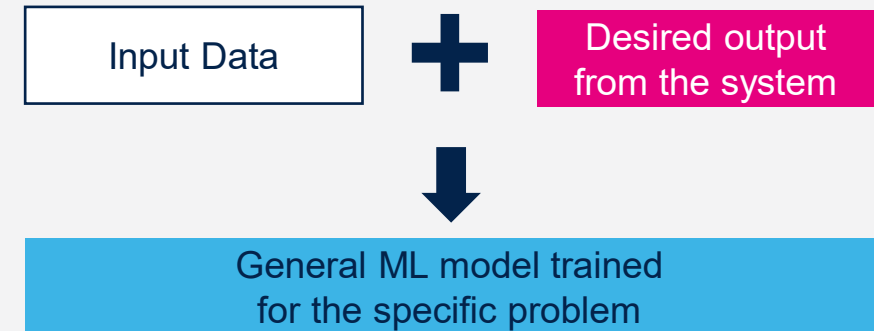
Create more robust software using Machine Learning on STM32

Standard programming Handcrafted rules based on experience



- Requires domain expertise to code
- Need to rewrite if environment evolves

Machine Learning Rules learnt from real-world data



- Generate code from real-world observations
- Re-learn from data if environment evolves

Artificial intelligence at the deep edge

Moving part of Artificial Intelligence closer to the data acquisition brings several benefits



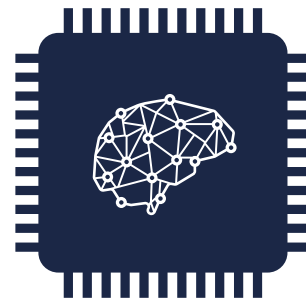
Better user experience



No latency (real-time)



More reliability



Add new functions and services with **Embedded AI**

Optimized Cloud usage



Privacy by design (GDPR compliant)

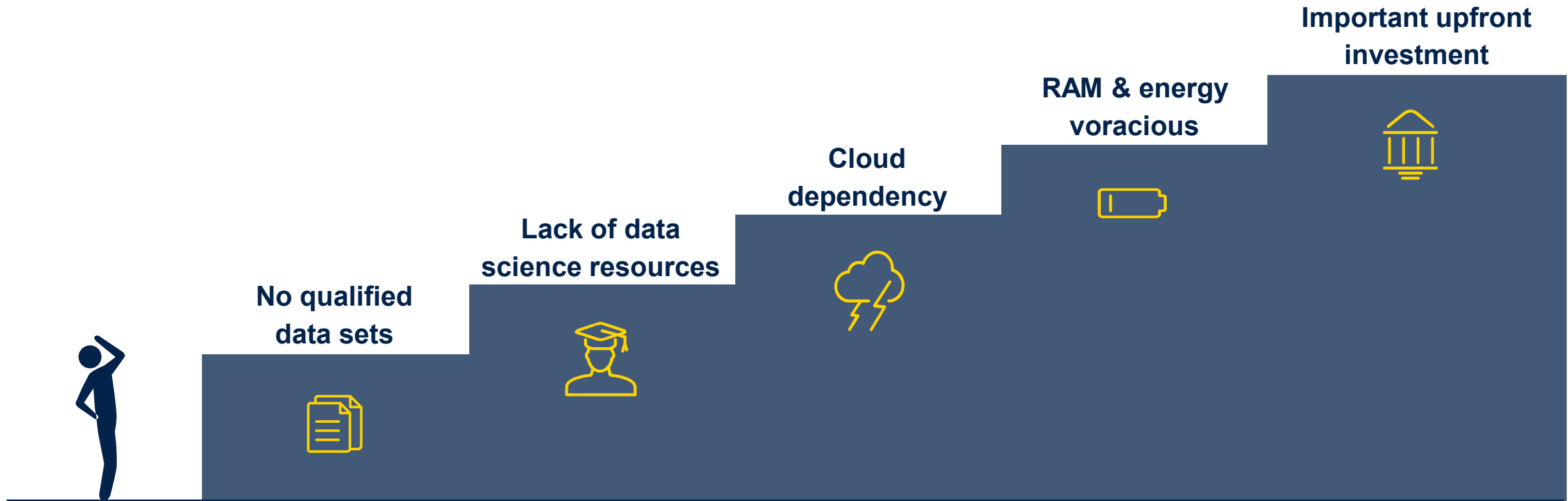


Sustainable on energy



For most companies, creating an edge AI device is a long journey with extraordinary challenges

Investment, complexity and development time are often barriers to AI adoption



160 Billions machines just “want” to do a better job

The washer isn't
draining properly
because
a belt is showing
signs of wear

HOME
MAINTENANCE



The pump is about to
break down
due to
a failure on a ball
bearing

INDUSTRIAL
MAINTENANCE

An unusual noise has
been detected
and
recognized as a
window break

SECURITY



Enterprise restaurant
is full
and
your waiting time is
currently estimated
to 15mn

PEOPLE
COUNTING

Start today with deep edge AI












“ If only
I had solutions to overcome
AI design challenges

That's where we come in



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Whatever your company's profile, you will find an AI solution suited to your needs

COMPANY'S PROFILE	USE CASES		
	Anomaly detection	Classification	Deep Learning
  Embedded developers <ul style="list-style-type: none">▪ No dataset available▪ No dedicated AI Team			 
  Team with AI expertise <ul style="list-style-type: none">▪ Dataset available▪ AI Team		 	

For embedded developers

NanoEdge™ AI Studio, an automated ML design solution

**NANOEDGE AI
STUDIO** 



A unique solution thought from scratch

HOW DID WE DO IT?

We re-wrote, from the algebra, ML and signal processing algorithms so that they can LEARN and INFER inside a microcontroller

- Patented technology
- Designed for embedded developers
- Ultra memory efficient (Flash and RAM)
- Unsupervised learning in the device
- Superior security
- Small footprint, any STM32 Cortex M
- Close to 100% accuracy and confidence

For teams with AI expertise

STM32Cube.AI helps you accelerate your embedded development



Easily evaluate, convert and deploy Machine Learning and Deep Neural Networks on STM32

An AI extension integrated with STM32Cube MCU development environment to OPTIMIZE and TUNE models, directly on target

- Develop and train your model with major AI frameworks



- Best ML performance on STM32 (MLPerf™ Tiny benchmarks)
- Validate performance directly on target
- Small footprint (runs on any STM32 built around Cortex M33, M4 and M7)



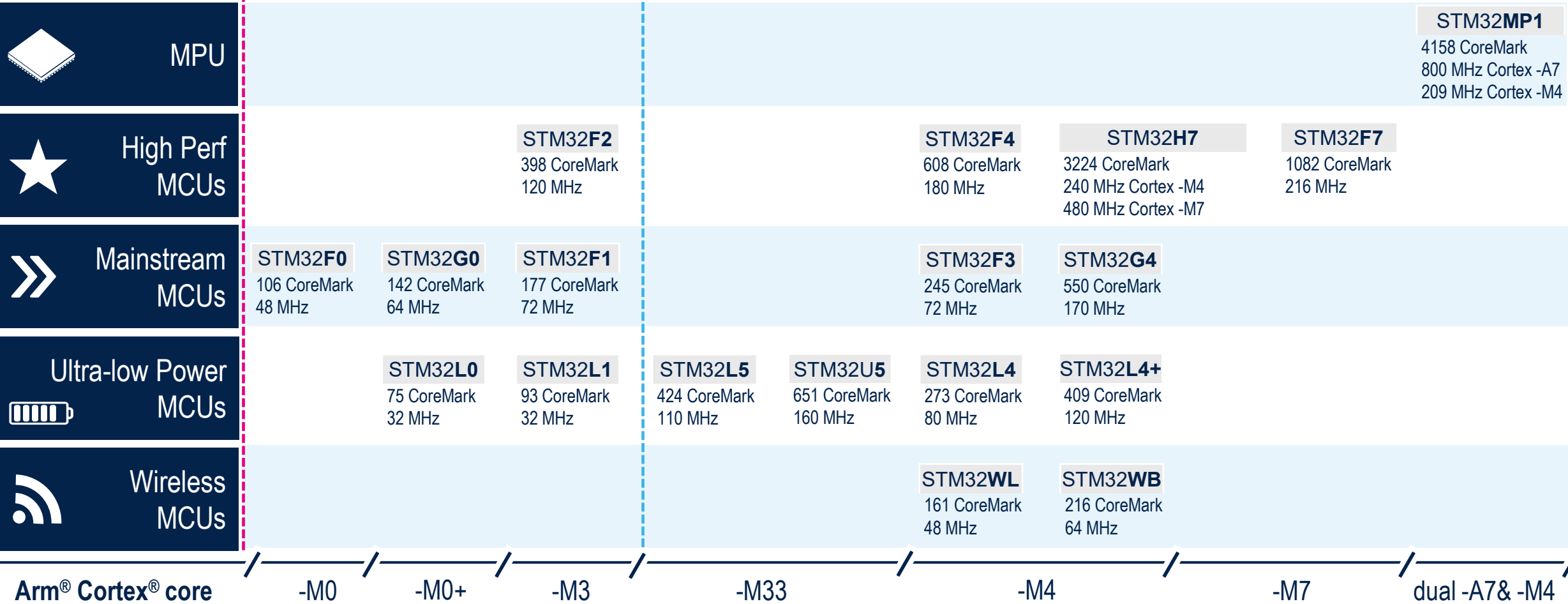
Making deep edge AI accessible now

NANOEDGE AI
STUDIO

All STM32 are compatible with NanoEdge™ ecosystem



STM32 compatible with STM32Cube.AI ecosystem



STMicroelectronics is now offering the ultimate AI solution framework

Stay focused on
your expertise,
we bring you
everything else

Your Industry Expertise



- ✓ Lead with true innovation
- ✓ Improved time to market
- ✓ Optimize cost
- ✓ Minimize risks

AI Design Services



Proven methodology to
accelerate ML
innovation process



Certified
partner
ecosystem

AI Software and ecosystem



NANOEDGE AI
STUDIO



**Function
Packs**

Hardware



STMicroelectronics is now offering the ultimate AI solution framework

Stay focused on
your expertise,
we bring you
everything else

Your Industry Expertise



- ✓ Lead with true innovation
- ✓ Improved time to market
- ✓ Optimize cost
- ✓ Minimize risks

AI Design Services

- ✓ Proven methodology to accelerate ML innovation process
- ✓ Delivered direct or through **certified** partner ecosystem
- ✓ Direct R&D assistance for all sprint projects

AI Software and ecosystem

- ✓ Best AI offering portfolio on the market
- ✓ **Most comprehensive AI stack** ranging from deep learning computer vision to self-learning anomaly detection.

Hardware

- ✓ **Most comprehensive HW portfolio** to address all projects and communication environment



Releasing your creativity



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For more information,
contact us at edge.ai@st.com

Our technology starts with You



Find out more at www.st.com/STM32CubeAI

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