NEUNEXUS INDUSTRIAL ECOSYSTEM

Industrial Innovation & Robotics Roadmap

Executive Concept

Clean energy, digital integration and cognitive robotics.

INITIAL PILOT

MODULAR ENERGY COMPONENTS

Robotic handling, inspection and traceability under professional control

Hannover Region, Germany | 2026

01 / EXECUTIVE SUMMARY

From industrial complexity to one measurable pilot

A phased approach to automation and clean-energy integration

THE CONCEPT

NeuNexus is developing an industrial innovation concept combining clean energy, industrial computing, digital systems and cognitive robotics within a scalable integration environment.

INDUSTRIAL NEED

Flexible automation remains costly and complex for smaller integration environments.

FIRST PILOT

One safe, repetitive task involving modular clean-energy components.

CURRENT STAGE

Pre-startup concept. Technologies and providers remain under evaluation.

THE IMMEDIATE OBJECTIVE

Define, assess and validate one practical robotic use case before investing in a complete production cell.

One validated task first. Industrial scaling follows measurable results.

02 / INDUSTRIAL CHALLENGE

Automation, energy and integration remain disconnected

The project starts where these three pressures meet.

1. **Flexible automation**

   Production changes require adaptable systems rather than fixed automation.

2. **Energy resilience**

   Robotics, computing and equipment add continuous electrical demand.

3. **Integration complexity**

   Robots, sensors, edge hardware and software must operate as one system.

4. **Technical capacity**

   Smaller organizations may lack internal engineering and training resources.

5. **Investment risk**

   A complete factory concept is difficult to finance without a validated pilot.

CORE RESPONSE

Combine modular technology through a controlled, measurable and professionally supervised pilot.

03 / INITIAL USE CASE

Robotic handling, inspection and traceability

A realistic first task for modular clean-energy components

The pilot supports technicians with safe and repetitive material-flow tasks.

ROBOTIC TASKS

Potential actions within the first controlled cell.

- Identify different components
- Pick and position components
- Move items to the correct workstation
- Check visible condition and orientation
- Scan serial numbers or QR codes
- Prepare units for testing or packaging

PROFESSIONAL CONTROL

Activities retained by qualified technicians.

- Electrical connections
- Safety-critical installation
- System commissioning
- Final quality approval
- Maintenance authorization
- Emergency procedures

PILOT BOUNDARY

The robot assists the workflow. It does not autonomously complete safety-critical electrical work.

A proposed seven-stage NEURA Gym pathway

Exact process, pricing and eligibility require confirmation by NEURA.

1. **DEFINE**
   Task, components, workflow, boundaries and targets
2. **CAPTURE**
   Demonstration, teleoperation, sensors and simulation
3. **PREPARE**
   Organize object, motion, position and exception data
4. **TRAIN**
   Develop the first robotic skill in controlled conditions
5. **OPTIMIZE**
   Improve performance under variation and interruption
6. **VALIDATE**
   Measure safety, accuracy, repeatability and cycle time
7. **EVALUATE**
   Assess deployment and potential scaling via Neuraverse

USE CASE > DATA > TRAINING > VALIDATION > DEPLOYMENT REVIEW

This is a proposed application of the publicly described methodology.

Four functions within one proposed ecosystem

Companies shown are references under evaluation, not confirmed partners.

01

DIGITAL ENGINEERING

Simulation of process, cell layout and energy flow. Siemens technologies may be evaluated.

02

INDUSTRIAL EDGE

Local processing, connectivity and monitoring. VCOW hardware is one possible option.

03

COGNITIVE ROBOTICS

Perception, manipulation and skill development. NEURA is under evaluation for the pilot.

04

VISION & INSPECTION

Identification, orientation and visible quality checks. DFOPTIX or another provider may be assessed.

Final suppliers, specifications, certifications and integration responsibilities require technical and commercial agreements.

06 / ENERGY AND DIGITAL LAYER

NEUGREEN Energy and BSGOTECH

Two supporting layers for the future integration environment

NEUGREEN ENERGY

Proposed clean-energy and modular energy-system layer.

- Solar generation
- Battery storage
- Energy management
- Backup and resilience
- Consumption monitoring
- Future thermal-reuse assessment

BSGOTECH

Proposed software, data and operational-monitoring layer.

- Operational dashboards
- Equipment-status visualization
- Component traceability
- Maintenance records
- User permissions and audit trails
- Future industrial interfaces

MEASUREMENT BEFORE CLAIMS

Grid reduction, renewable autonomy, CO2 prevention and uptime must remain targets until engineering studies and operational measurements are available.

No claim of 100% autonomy or certified performance is made at this stage.

Human responsibility remains central

Automation must operate within defined technical and legal boundaries.

HUMAN CONTROL

Qualified professionals retain electrical, commissioning and final approval responsibilities.

CELL SAFETY

Risk assessment, guarding, emergency procedures and operator training are required.

DATA SECURITY

Access, logging, system updates and industrial data must be governed.

OPERATING PRINCIPLE

Robotics and AI should improve consistency and assist technicians. They must not silently replace authorized human decisions or operate beyond validated limits.

PREPARATION AREAS

RISK	SAFETY	QUALITY	CYBER
Task and cell assessment	Applicable EU requirements	Inspection and acceptance	Secure connectivity and updates

Formal requirements depend on the selected robot, cell, task and deployment environment.

From concept to one physical pilot

A phased investment and validation model

01

ASSESS

Discuss suitability, eligibility, cost and timeline with NEURA

02

DEFINE

Select component group and document the manual workflow

03

STUDY

Evaluate robot, vision, edge computing, safety and cell layout

04

TRAIN

Collect data and develop the first robotic skill

05

VALIDATE

Measure accuracy, repeatability, cycle time and intervention rate

06

DEPLOY

Install a controlled pilot and decide whether to scale

FIRST MILESTONE

A technically defined use case ready for feasibility and commercial assessment.

09 / STATUS AND NEXT STEP

Be transparent. Prepare one credible case.

The Uetze concept remains a long-term development vision.

CURRENT STATUS

- Pre-startup and concept-development phase
- No complete robotic cell or finalized industrial prototype
- Technology providers and suppliers under evaluation
- Financing and startup-support options being explored
- No consortium or official technology partnership established

QUESTIONS FOR NEURA

ELIGIBILITY

Can a pre-startup enter an initial assessment?

INPUTS

Are CAD files, workflow documents and samples sufficient?

ROBOT

Which platform could suit the proposed task?

COMMERCIAL

How are timeline, costs, data and skill rights handled?

COLLABORATION REQUEST

An initial technical discussion to refine the use case, confirm requirements and define the appropriate next step.

NEUNEXUS INDUSTRIAL ECOSYSTEM

One Use Case.
One Physical Pilot.
Measurable Results.

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Concept stage - technologies and collaborations remain under evaluation.