



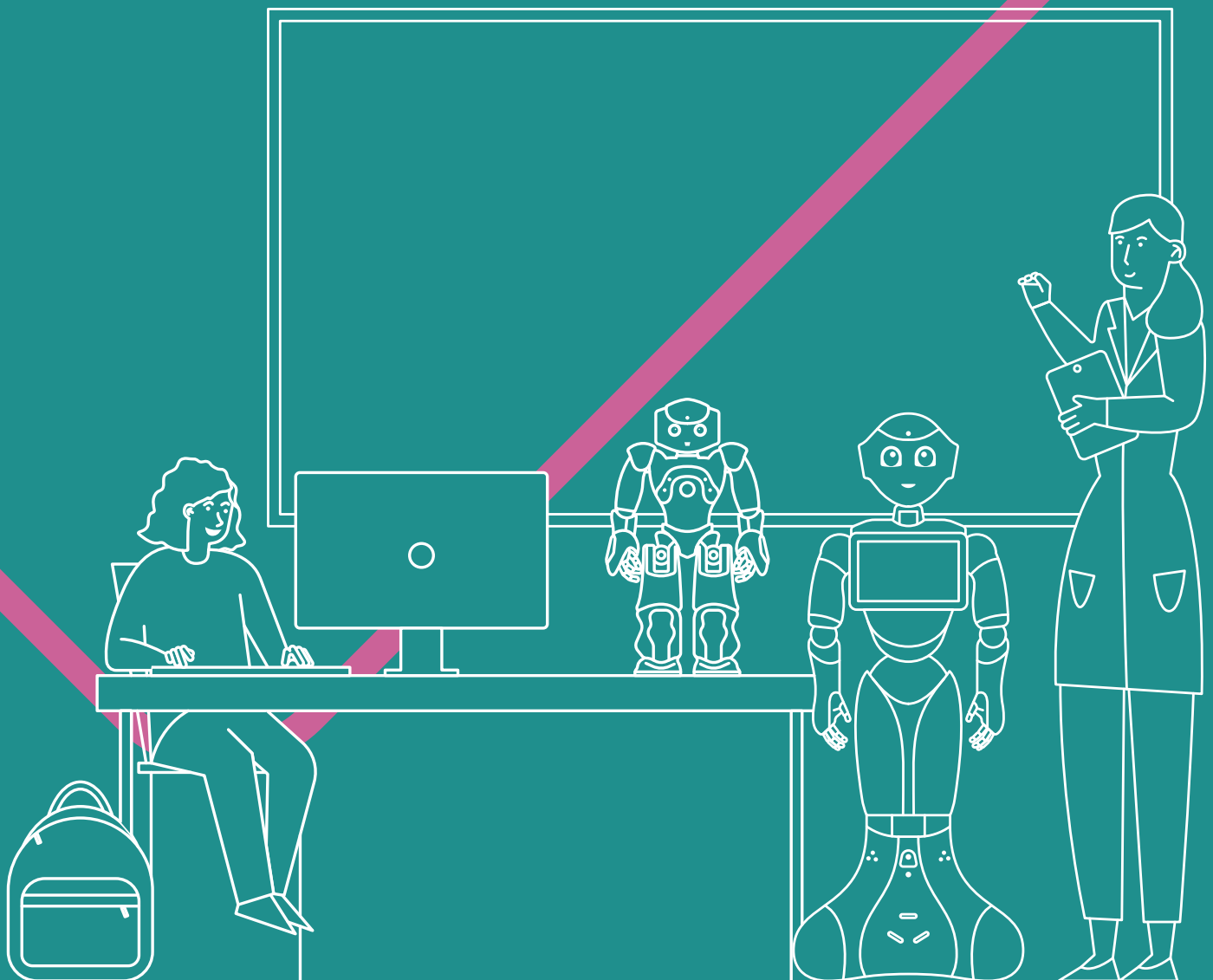
EDUCATION



UNITED
ROBOTICS
GROUP

the **CobiotX** company

Empowering the next generations with robotics in education



A white NAO robot with a black head and chest accents is being held by a child's hands. The robot has a circular speaker grille on its left side of the head and a small 'NAO' logo on its chest. The background is a blurred indoor setting with a child in a black dress with red polka dots. A large, dark teal diamond-shaped graphic is overlaid on the right side, containing the text. Three diagonal stripes in teal, pink, and orange run across the bottom left corner.

Welcome
to the new era
of education

As we believe in fostering personal and meaningful connections, our robots are tools for educators, designed to amplify the human spirit.

NAO and Pepper bring knowledge to life, offering students the invaluable gift of experiential learning, bridging the gap between classroom concepts and real-world application.

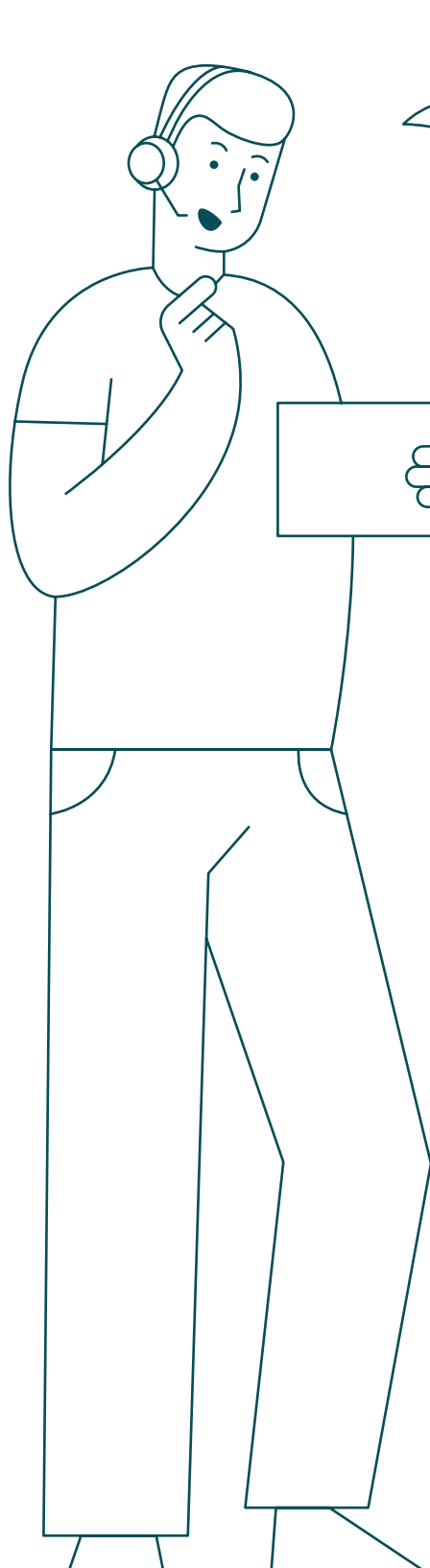
In our pursuit to change the face of education, we envision a world where every student is empowered, every teacher is equipped, and every classroom is an incubator of tomorrow's generations.



UNITED ROBOTICS GROUP
the **CobiotX** company



Let's face the education challenges



40 %

Tasks can be automated to prevent teacher burnout.



1.5 B

Students have been impacted by inequality in education, worldwide.



Only 19 %

of ICT specialists' graduates are women.

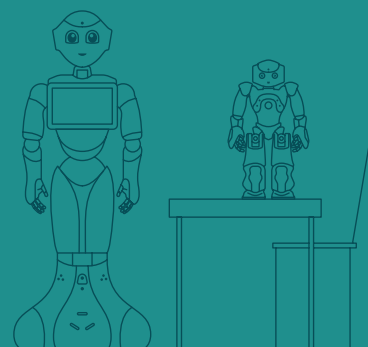
That's where robotics can help.

As creators of robots, we envision a future where every classroom is a canvas of **limitless possibilities, for educators and for learners.**

Accessibility is at the heart of our operations.

DID YOU KNOW?

More than 17K of our NAO and Pepper robots have been deployed globally.



Robots are your teaching assistants as well as your students' learning companions.



Build an **interactive** & engaging environment.



Empower every student with **inclusive learning**.



Enrich the learning experience for higher education students.



Learn by doing thanks to instant feedback.



Participate in a **real in-class** experience from remote.



Develop invaluable problem-solving skills

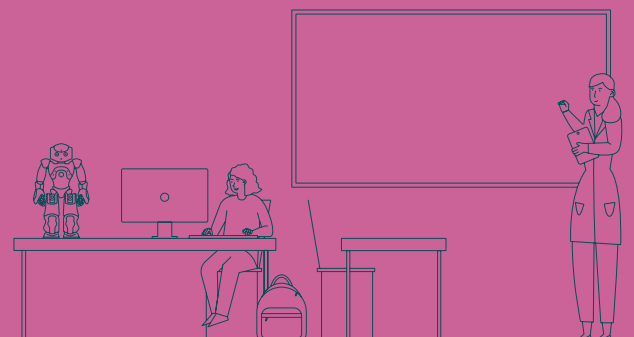
Robots open the door to new ways of learning, helping them master problem-solving in different environments.



Grow confidence in soft skills

Robots create opportunities for collaboration, critical thinking and teamwork.

Enhance your classroom with an adaptable and intuitive robotic companion, to empower every student to reach their goals.





Meet NAO⁶ the students' learning companion

ACOUSTICS
4× omnidirectional
microphones
2× loudspeakers



DETECTION
2× 5-megapixels
cameras



EXPLORATION
4× sonars
to detect obstacles



ADAPTIVE WALK
8× Force Sensitive
Resistors



COMPUTING
CPU ATOM E3845
Quad core 1.91 GHz
4 GB DDR3 RAM
32 GB SSD



CONNECTIVITY
Bluetooth
Ethernet
Wi-Fi

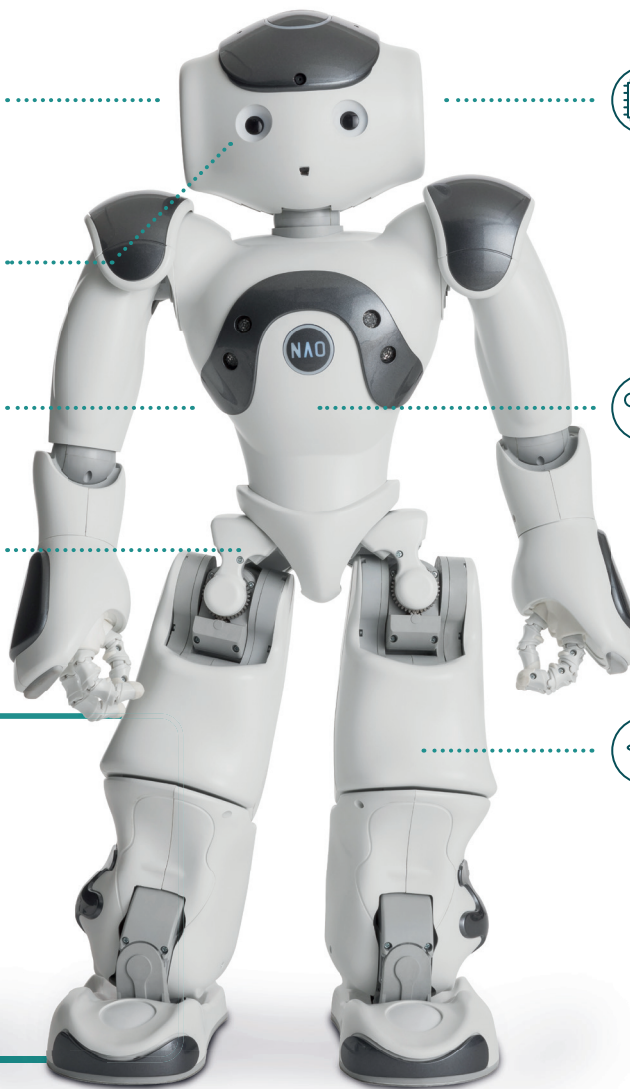


MOVEMENTS
25 degrees of freedom



FACT SHEET

Name: **NAO**
Born in: **2006**
Nationality: **French**
Height: **58 cm**
Weight: **5,5 kg**
Hobby: **Soccer**



NAO'S MAIN BEHAVIORAL SKILLS

Fall & recovery management

Detects falls, triggers
protective functions
& stands back up
on its own.

Human-like shape & motion

25 degrees of freedom,
motorized joints &
advanced algorithm
for control.

Prehensile hands

Powerful motors
& robust fingers.

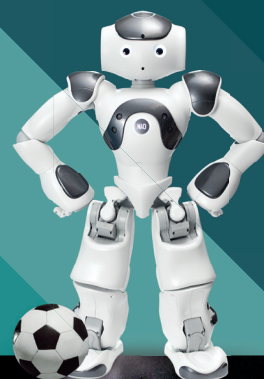
Multilingual communication

More than 20 Languages.



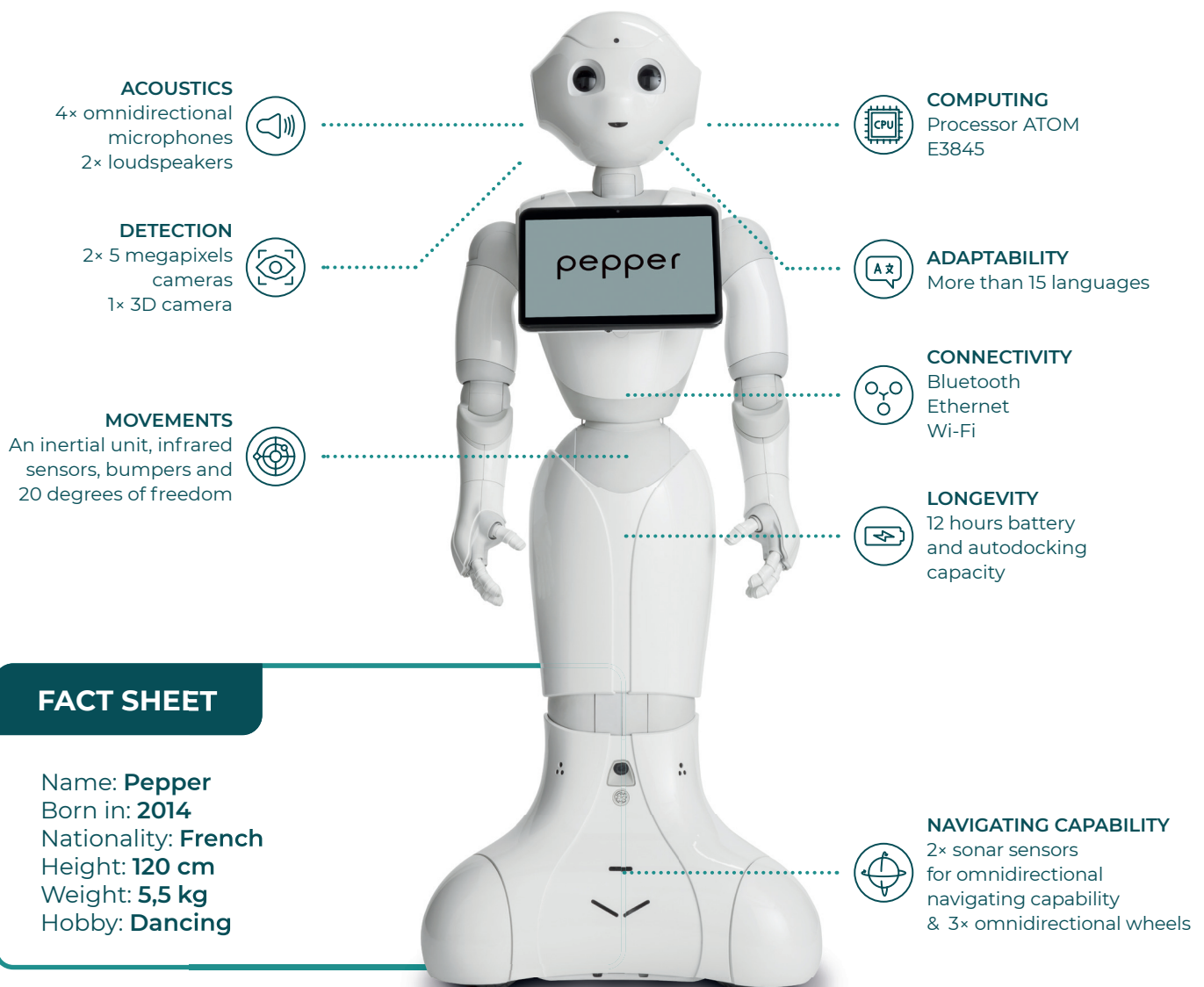
DID YOU KNOW?

NAO has been the standard platform for RoboCup for 15 years, with over 200 NAO robots deployed during each competition.





Say Hi! to **pepper** the empathetic teaching assistant



PEPPERS'S MAIN BEHAVIORAL SKILLS

Welcoming and engaging

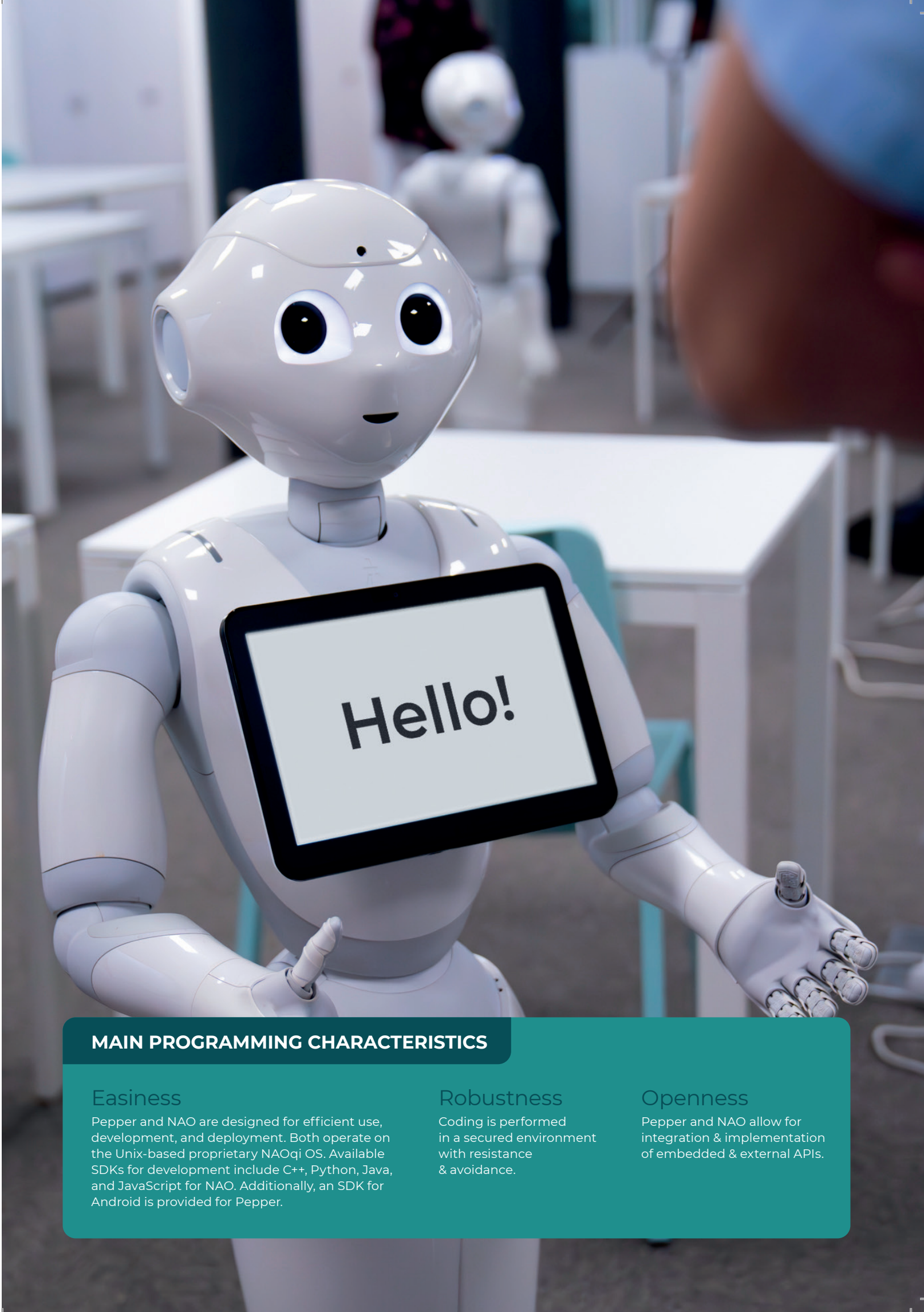
Pepper's captivating design and welcoming nature attract attention, building trust and promoting greater engagement.

Understanding emotions

Pepper fosters empathetic connections by understanding and responding to human emotions. This leads to meaningful and fulfilling interactions.

Contextual and real-time interaction

Pepper anticipates needs, adjusts in real-time, and creates an enjoyable and connected experience.



MAIN PROGRAMMING CHARACTERISTICS

Easiness

Pepper and NAO are designed for efficient use, development, and deployment. Both operate on the Unix-based proprietary NAOqi OS. Available SDKs for development include C++, Python, Java, and JavaScript for NAO. Additionally, an SDK for Android is provided for Pepper.

Robustness

Coding is performed in a secured environment with resistance & avoidance.

Openness

Pepper and NAO allow for integration & implementation of embedded & external APIs.



NAO⁶ & pepper as programming tools.

Crafting the next generation of coders.

NAO & Pepper can serve as a platform for students to learn programming and robotics skills, preparing them for future careers in technology.

Why are our robots the best to learn programming?

Enhanced problem-solving and critical thinking skills through programming challenges.

Hands-on experience with AI and robotics technologies.

Increased efficiency in motivating students and enhancing their comprehension.

Programming languages



Choregraphe



Python



SDK (Extensive software development kit)



C++



Choregraphe



Python



CMS no-code tool



Android (Java or Kotlin)



NAO BLOCKLY FOR PROGRAMMING.

For primary and secondary school level education.

It allows to learn and develop programming skills and is a perfect tool for the initiation to STEM topics and to enhance learning by doing.



PEPPER FOR PROGRAMMING.

For secondary & higher school level education.

Enhance problem-solving and critical thinking, personalize the learning journey through individualized feedback, and immerse students in practical experiences with AI and robotics technologies, such as human-robot interaction, navigation and mapping in dynamic environments, computer vision, object recognition, and more.



REAL APPLICATION

NAO @SCHOOL PROJECT,
NOGENT SUR MARNE, FRANCE

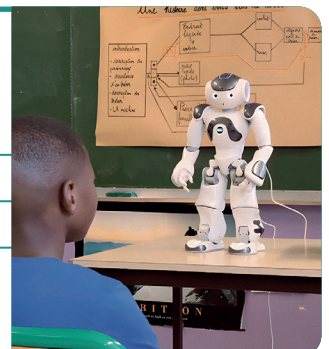
They adopted us !
The experiment took place in a French school during the 2018-2019 school year. The school has chosen to focus on writing – the main challenge being to motivate students in subjects that they find challenging or uninteresting.

4TH GRADE

3 classes

9 months

2 teachers



NAO⁶ & pepper

as language teachers.

Beyond Boundaries:

A new way to learn languages for tomorrow's global world.

How can our robots help teach languages?

Improved
speaking & listening skills.

Enhanced
vocabulary through
interactive games
& exercises.

Increased
**engagement
& motivation**
through
personalised
learning.

Improved
**language
proficiency**
assessment
& feedback.

Accessible
language learning
for students
with disabilities
or in remote areas.

NAO FOR LANGUAGE LEARNING WITH ELIAS.

For secondary education,
research, special education
and language institutes.

This solution allows learners to interact
with NAO and practice their language
skills in a fun and engaging way, while
providing personalized instructions
and feedback.

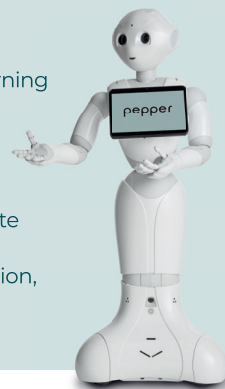


PEPPER FOR LANGUAGE LEARNING.

For secondary education,
research, special education
and language institutes.

How can Pepper help you?

- **Boost** speaking and listening skills through conversational practice,
- **Enrich** vocabulary through interactive games and exercises,
- **Heighten** student engagement and motivation with tailored learning experiences,
- **Refine** language proficiency assessments and feedback,
- **Ensure** accessibility for students with disabilities or those in remote areas in dynamic environments, computer vision, object recognition, and more.



REAL APPLICATION

PROJECT H.E.A.R.T.

PHILIPPS-UNIVERSITÄT
MARBURG,
GERMANY

Pepper at university

Project H.E.A.R.T. (Humanoid Emotional Assistant Robots in Teaching) was a German linguistic course project exploring robots in everyday university life using qualitative methods, highlighting teacher-assistant benefits and ready-to-use robot apps.

UNIVERSITY

1 Project manager

4 apps showcased

2017 start of
the project





NAO⁶

as assistant to specialized educators.

Create a new kind of connection.

NAO helps people with autism to better interact with their environment, express their emotions, and develop essential social and communication skills.

Why it works?

NAO is particularly **well received by young children** because of its size and appearance. Children anthropomorphize NAO and readily engage in affective social interactions. A child avoiding the adult's gaze, can look at NAO more easily and progress in their learning.

How NAO can help?

Projects with **children with special needs** demonstrated that children improved their interaction skills:



More dynamic

Improve their skills
& gain confidence

More attentive

Do not hesitate to answer
the questions asked

More active

Dare to take risks

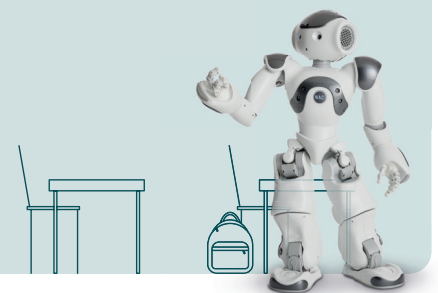
NAO FOR SOCIAL EMOTIONAL LEARNING.

For educators and therapists working with 3-8 years old children with neurodevelopment issues.

It allows children to develop motor skills, oral comprehension, interpersonal communication and emotions recognition.

The program comes with:

- Ready to use educational games
- Physical activities
- Oral comprehension and story telling activities
- Rewards



REAL APPLICATION

NAOTISM PROJECT,

QUÉTIGNY,
FRANCE

Nao can make a difference!

NAO has been used in a special kindergarten class in Quétnigry, France to help children with ASD to learn better communication skills. The objective is to verify what beneficial impacts the presence of humanoid robots like NAO have in a specialised education classrooms.

SPECIALISED
SCHOOL
FOR ASD
CHILDREN

ASD children

3-5 years old

2017 start of
the project



NAO⁶

as physical therapy support.

Change the way we rehabilitate.

Discover specialised therapy routines, adapting in real-time using AI.
It moves, evaluates, and records, focusing on both physical recovery and cognitive growth.

What to do with NAO?

With NAO, therapists can improve treatment adherence, efficiency and patient's motivation and overall results.

How NAO can help?



NAO FOR PHYSICAL THERAPY WITH INROBICS.

For rehab centers and hospitals treating children and adults with motor, cognitive or physiological issues.

NAO allows patients to live an immersive therapy experience, with an adapted & personalized therapy routine. It allows for Increased patient's motivation, attention and adherence to the treatment.

The program comes with:

- Individual and group therapy sessions and daily routines
- Gamified content: narrative immersions, challenges, active breaks...
- Data analysis and reporting
- Ensure accessibility for students with disabilities or those in remote areas in dynamic environments, computer vision, object recognition, and more.

"Inrobics help our patients have much more motivation and adherence to treatment. In the end it's a demand that is born from a game between the robot and the child."

Lorena Rodriguez, Vice President
Fundación Dacer.

"I am very impressed. My daughter has a very large attention deficit and has endured the entire session with the robot without blinking."

Sonia Gomez, Patient's mother.



RoboCup

Their motivation to participate to the RoboCup.

What pushed you to start and keep competing in the SPL?

"Pepper is more than a robot. It has the potential of becoming a companion robot that you enjoy interacting with, to make your life more delightful."

AMY EGUCHI, PH.D.
Associate Teaching Professor,
Computer Science Education,
Department of Education Studies,
UC San Diego

"The SPL offers a software benchmark and competition with 'equal prerequisites' for everyone."

NAO Devils,
Germany

"Teaching practical software engineering & robotics without having to actually build robots. (We don't have electrical/mechanical engineering degrees at our university)."

Bembelbots,
Germany

"Interest in humanoid robotics, the challenges of applying research of humanoid robotics to the real world."

HULKS,
Germany

"It's a great motivating projects for grad students and as computer scientists, the abstraction from having to build and maintain hardware is useful"

UT Austin Villa,
USA

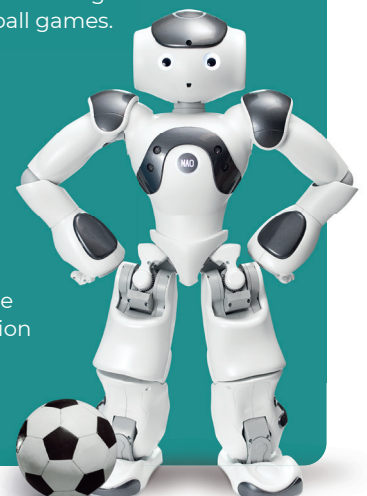


DID YOU KNOW?

Since 2007, NAO has consistently stood out on the football pitches of the RoboCup.

Quickly rising to stardom in "RoboCupSoccer," NAO showcases perfect autonomy as it competes in thrilling matches without any computer control. Here, participants pit their robots against each other in intense football games.

Merging the world of football with robotics, this event captivates both seasoned experts and curious newcomers alike. The ultimate ambition? By 2050, field a robot football team skilled enough to challenge the reigning world champion human team.



Beyond education



EDUCATION



HOSPITALITY



HEALTHCARE



INSPECTION
& MAINTENANCE



INDUSTRY
& INTRALOGISTICS



LIFE SCIENCE

Our commitment to innovation stretches beyond the educational realm.

Our robotics suite caters to an array of industries, including hospitality, healthcare, retail, manufacturing, and the corporate sector.

Each robot is meticulously designed to meet industry specific challenges, ensuring seamless integration and immediate impact.

Meet our robots!



Learn more about our diverse range of robotic solutions at unitedrobotics.group.com



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range of robotic solutions at
unitedrobotics.group.com

Pepper is a trademark of SoftBank Robotics Group.

