THE CLUSTERs

Artistic document : Naoyuki Tanaka aka NAO

踊る阿呆に見る阿呆、同じ阿呆なら踊らにゃ損々

The dancers are fools, the watchers are fools, both are fools alike so, why not dance?

Awa Odori's song

Summary

Notice of Intention

Human/non-human relationship

If my eyes are normal and a traditionally equipped classroom is lighted, I cannot fail to see the black rectangle against the lighter background that I will interpret as a blackboard affixed to a wall. [...] The bee unfortunate enough to fly into the classroom will not see a blackboard. The beetle will likewise fail to apprehend what is so obvious to me. What objects will the bee or the beetle, or the dragonfly, for that matter, encounter in this same classroom?

John Deely, Umwelt, 2001

For several years, NAO's artistic research has explored the boundaries between robot and human worlds, studying their interactions and interpretations. His artistic approach is directly influenced by Japanese pop culture, particularly with manga and films from the 80s that shaped their childhood. This work is inspired, for example, by the character of Astro Boy (from the manga of the same name), a humanoid robot who worries all his life about the conflicting robot-human relationship and eventually dies because of it. The rapid developments in the field robotics in recent years are also a constant source of inspiration for the artist. For example, the aibo produced by Sony for the eternal company of humans highlights one aspect of the robot-human relationship developed in this project.

Unlike Western culture, Japanese animistic belief does not conceive of robots just as a new force of labor exploitation but also as beings in their own right, sometimes even as friends or companions. According to the theory of UMWELT, there are as many perceptions of the world as there are living and non-living objects that exist in it. Thus, if animal, plant, mineral, and digital species coexist in the same spaces, what is the nature of their interactions? What is the degree of porosity between their juxtaposed worlds? How do their reciprocal perceptions of each other create new worlds?

Movement as a Vector of Contamination

Today, flows of information circulate continuously through networks. Like viruses, these flows of information infect our language and spread throughout society.

The spider robots of **THE CLUSTERs** evolve in their own society with their own morphology and ways of communicating. This performance questions how one perceived world can disrupt another; it explores the spaces of interaction between human and robot. Here, movement is the vector of contamination: the rhythm given by the artist's movements is the metaphor for the interaction between robot and human. A dialogue is established through a primitive-technological dance that eventually contaminates the performer, the robot/chimeras, and the audience. By entering this universe, the performer disrupts its balance and transforms the established world.

What new order emerges from this disturbance? How do the relationships reorganize themselves?
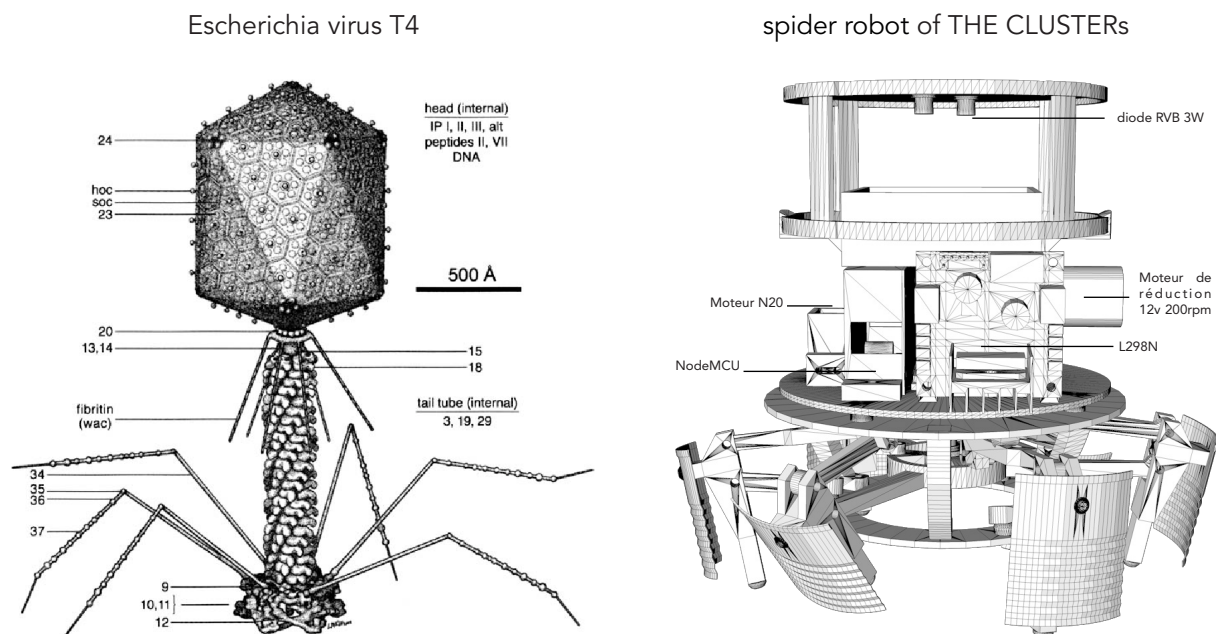
Escherichia virus T4   spider robot of THE CLUSTERs

Fig. 1 The robot shape is inspired by a virus - Escherichia virus T4

Performance Overview

Profane time and peacetime necessarily strengthen established positions, vested interests, conventional opinion, routine and laziness, selfishness and prejudice. Thing become weighted down and ossified, tending toward immobility and death. On the contrary, war and festival discard dregs and waste, eliminate false value, and recover the source of primordial energies, reactivating their full and dangerous, but salutory, violence.

<div align="right">Roger Caillois, Bellone ou la pente de la guerre, 1963</div>

The performance **THE CLUSTERs** is a choreography for eight robots and one performer, designed in three acts:

Act I - The robot society

The performance begins in white light and silence, only disturbed by the sounds randomly produced by the robots. Each of their actions is associated with a unique sound produced by the computer, whose volume increases throughout the performance. A robot world emerges and takes shape before the eyes of the audience. Gradually, the random and disordered movements of the robots synchronize. They adjust to each other, eventually coordinating until they blend, through a synchronized choreography, into a single entity.

Act II - Disturbance

Suddenly, the stage goes black and the white LEDs of the robots start to flicker slowly, illuminating the stage and revealing the performer who magically appears in the midst of the group. By the movement of his feet, he enters the world of robots and takes control of one of them. Gradually, this "contamination" spreads within the group. The robots' own world no longer exists, and the system has become unstable.

Act III - New Order

As if gradually realizing his power, the performer's movements gradually transform into a frenzied dance that pushes the system to its limits. A new world emerges, merging robots and humans. This new hybrid system seems to be controlled by the performer, who has taken over the robots and controls their movements on the dance floor.

The result is a space where humans and robots dance together without really knowing who influences the other. From then on, how can we describe the nature of this dance? Is it a war dance or a dance of celebration?
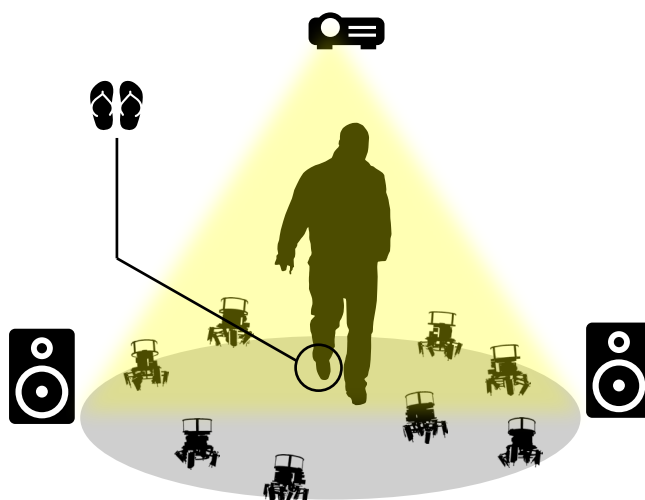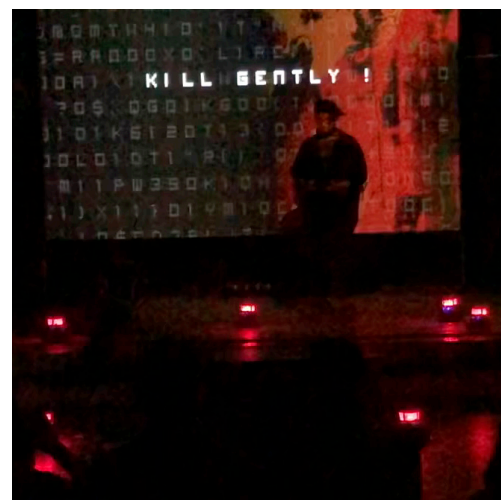

Fig. 2 Installation plan

Fig. 3 Festival Jamais d'Eux Sans Toi

Technical Setup

The setup will consist of eight spider robots, an augmented pair of getas, and sound and visual projection, all controlled by a main computer.
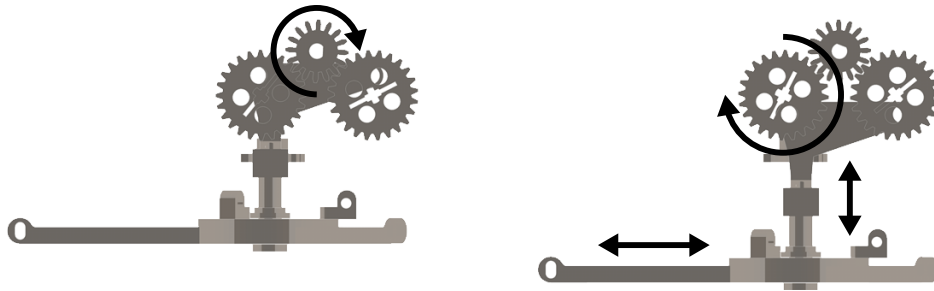

Fig. 4 Mechanical links of movement

Each spider robot is an autonomous hexapod consisting of two motors, a power stage, a superluminescent RGB diode, and a micro-controller (NodeMCU) that allows each robot to communicate wirelessly via its Wi-Fi module. This configuration enables sending commands and receiving messages in OSC (OpenSoundControl) on robot activity via a dedicated computer. The two motors manipulate the robot's six legs using 3D-printed mechanical linkages to generate back-and-forth movements and direction changes. The diode can be continuously lit, blink, and light up in different colors.

The performer's augmented getas are equipped with simple contact type sensors that detect the performer's foot movements. This data is transmitted to the dedicated computer via a NodeMCU micro-controller, similar to the robots.

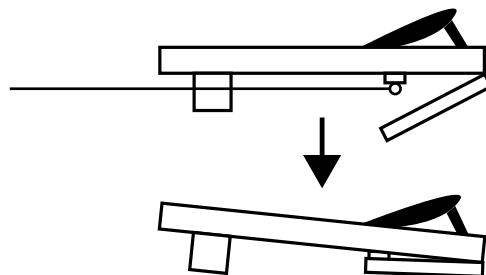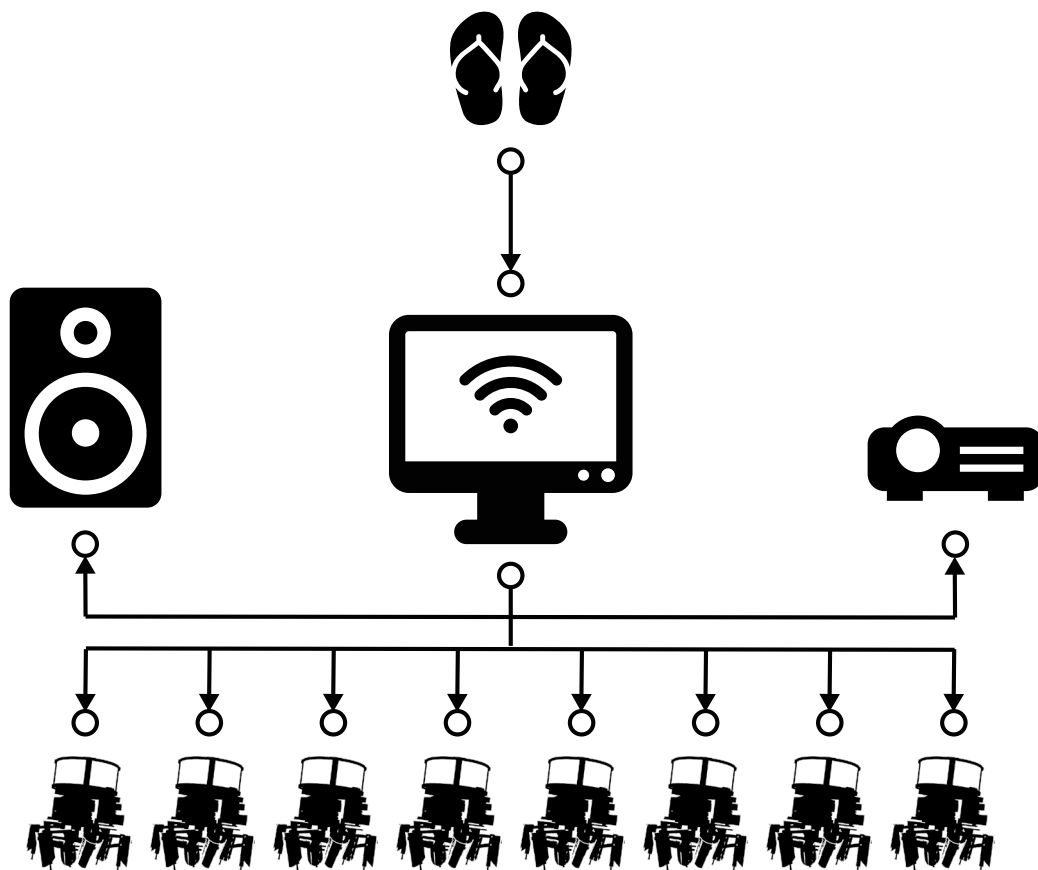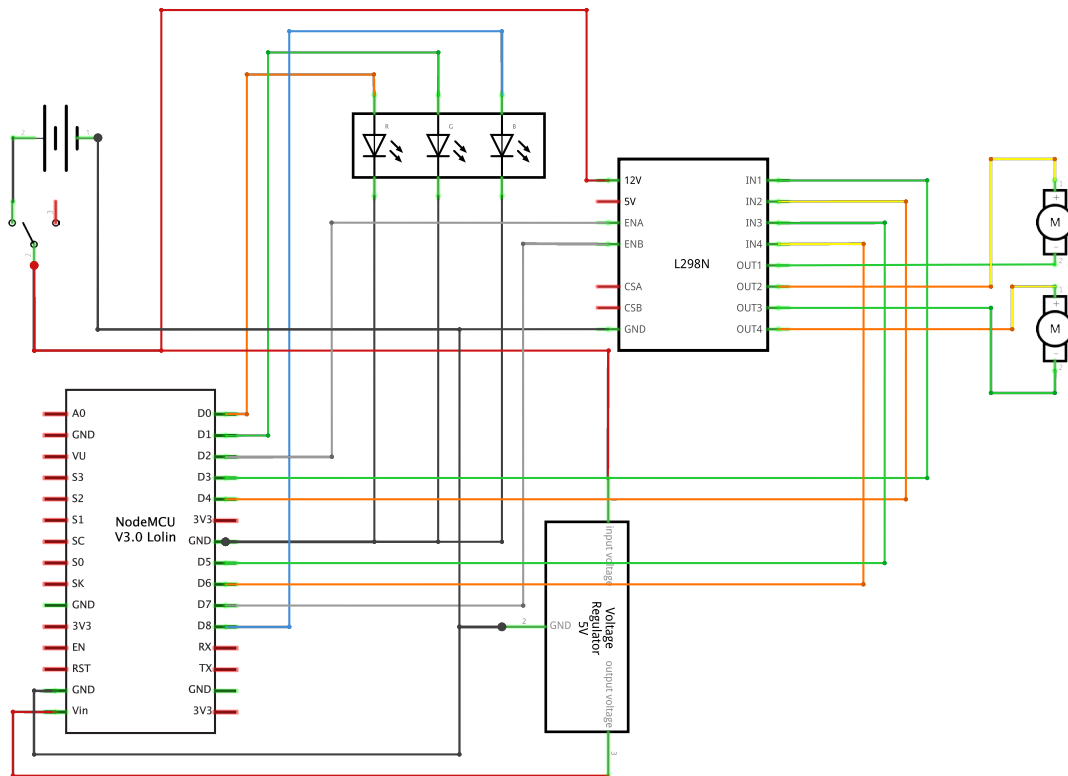The Getas send the signals when the switch is turned on.


Fig. 5 Augmented Geta

Fig. 6 Electrical schematic of the robot

Fig. 7 Communication in local network

Presentation

Since the launch of the production of the performance in September 2021 with a first creation residency at the Laboratoire deletere, the performance has been presented to the public in France and internationally.

Teaser : https://youtu.be/k2xMjWWsTSI

- 09/2021 Festival Jamais d'Eux Sans Toi #1 - Marseille(Fr)
- 11/2021 Festival aux Instants Video #34 - Marseille(Fr)
- 11/2021 Ballade Immersive - Marseille(Fr)
- 05/2022 Residency presentation - Marseille(Fr)
- 05/2022 Athens Digital Arts Festival #18 - Athens(Gr)
- 11/2022 Lumen #7 - Tournai(Be)
- 04/2023 Festival Zéro1 #8 - La Rochelle(Fr)
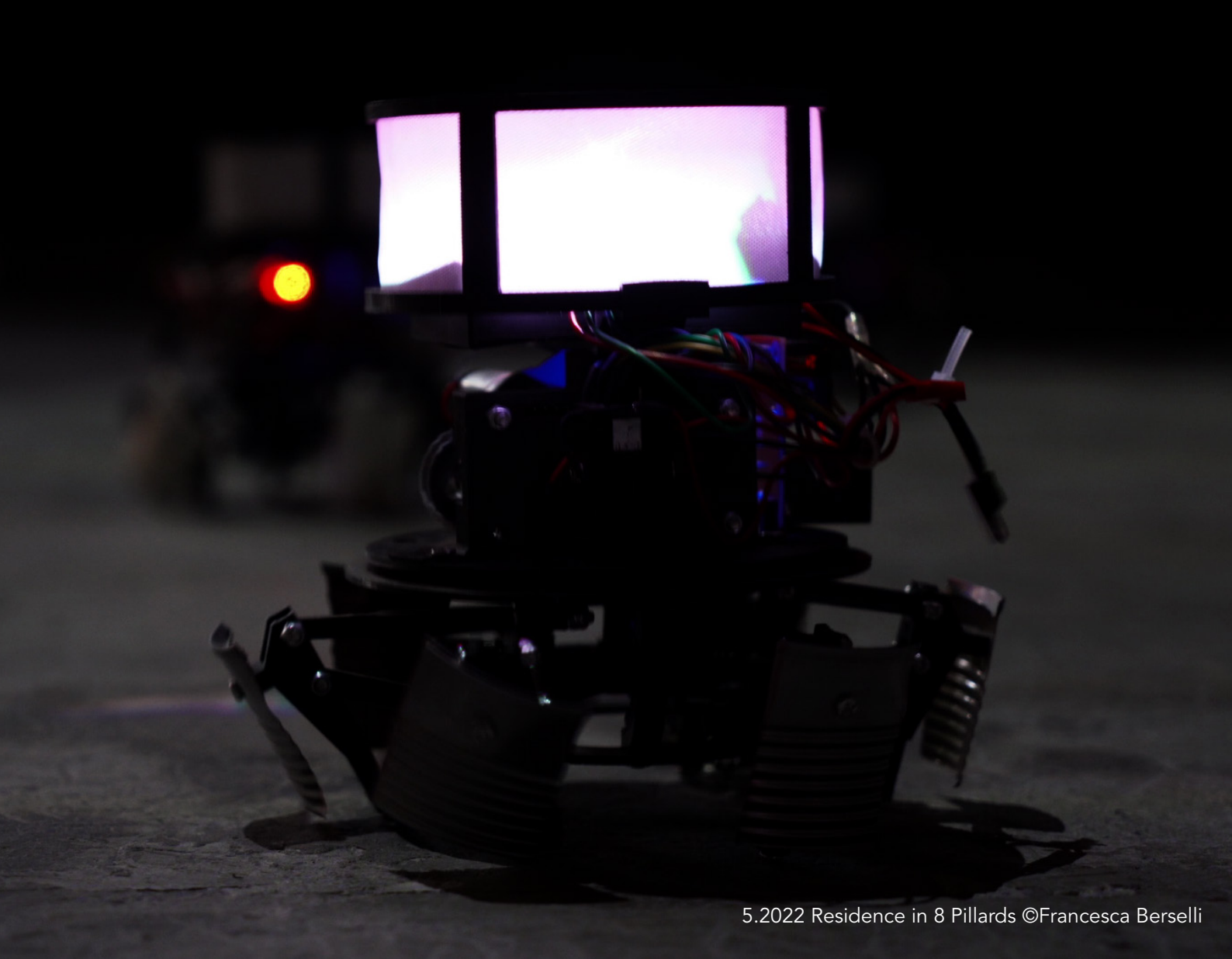- 05/2023 Festival]interstice[#17 - Caen(Fr)
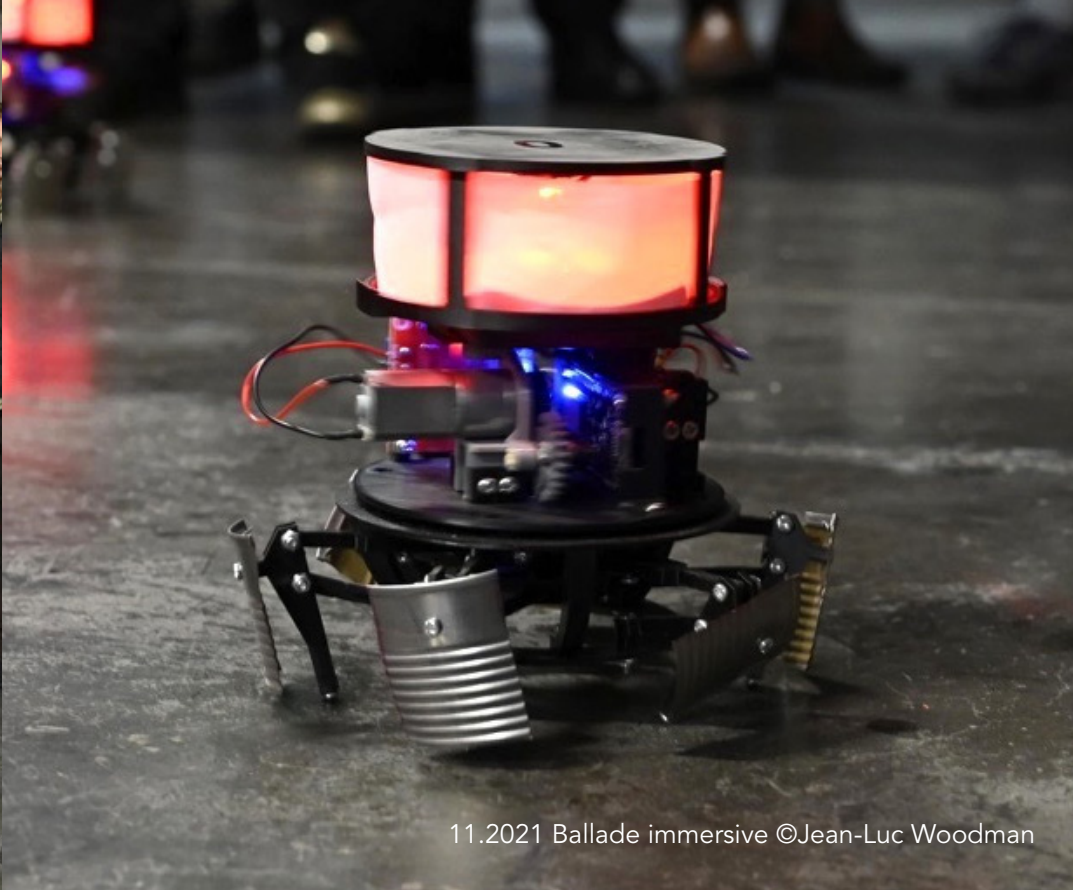
11.2021 Ballade immersive ©Jean-Luc Woodman

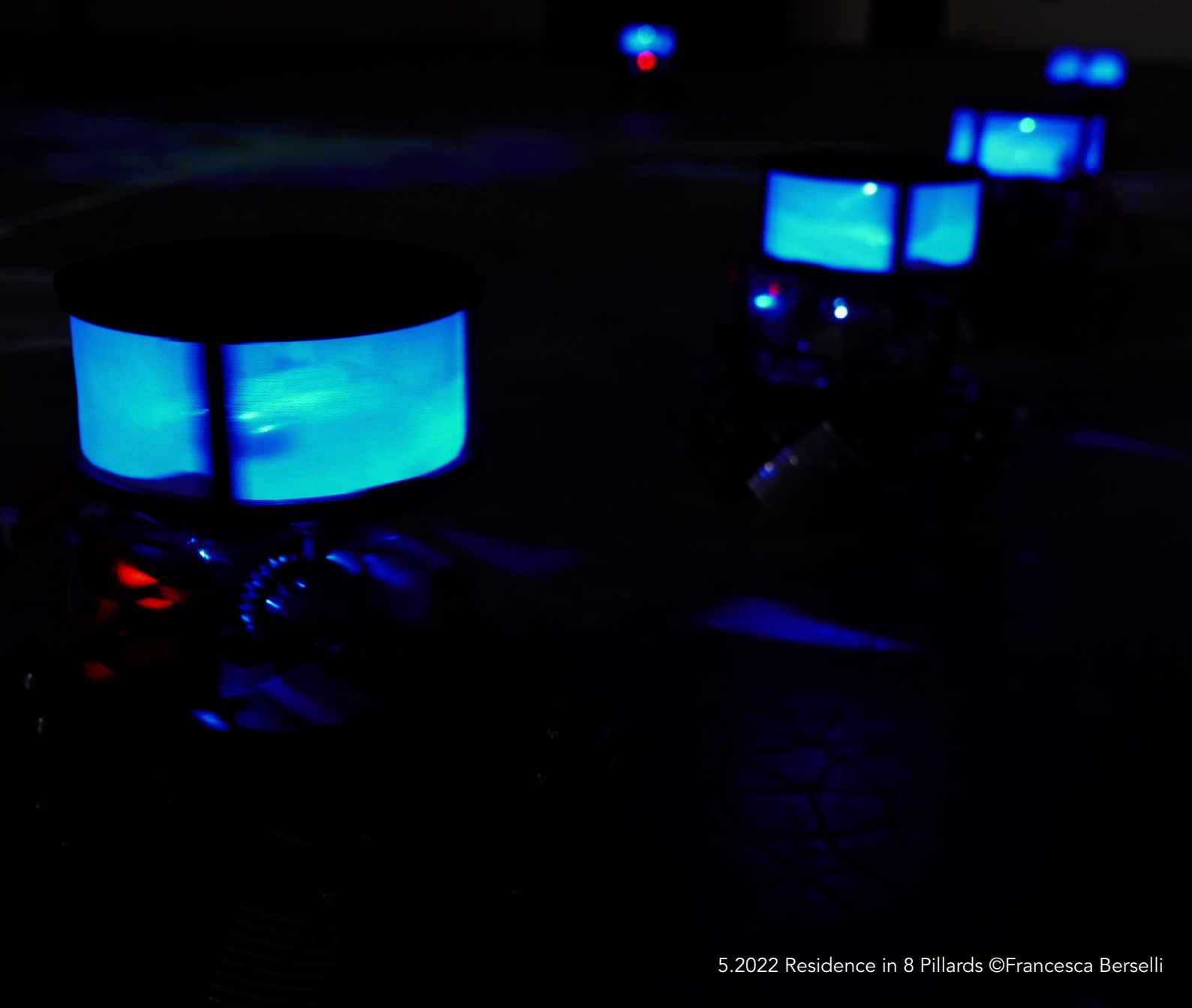5.2022 Residence in 8 Pillards ©Adelin Schweitzer

5.2022 Residence in 8 Pillards ©Francesca Berselli

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Biography

Naoyuki Tanaka (aka NAO) is a Japanese artist living in France, who mainly works with programming, image and sound in the form of performances. NAO creates a noise universe using the feelings behind his consciousness, and unites them through the use of interactivity. Since 2003, he has participated in digital art festivals where he experiments with his artistic concerns. His performances oscillate between questions about society and questions about everyday life. They carry a cynical look on the world.

Production structure

deletere is a nomadic research laboratory on new technologies as an artistic medium. Resolutely transversal, the association produces and distributes essentially multimedia works and performances that question the public on its relation to Machines.

Partners

Supported by : CNC - DICRéAM
Partnership with : Co_opérative and L'Atelier Juxtapoz

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