



# NOCTUA



## SPONSORING BOOKLET

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“NATURE’S EYE IN THE SKY - FOR A FUTURE  
WHERE WILDLIFE CAN THRIVE”

**ETH** zürich

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# OUR MISSION

According to the **Save the Rhino Foundation**, rhino **poaching** in South Africa alone **rose by 9,000 percent** in the last 15 years. The **biggest challenge** faced by wildlife reserves is the ability to **monitor the whole park**. For example, even with more than 400 rangers on patrol in the southern part in *Kruger National Park*, only a fraction is covered.

One big reason for this struggle is the **lack of sufficient surveillance solutions**. **Commercial multi-rotor drones** are severely limited by the **short flight** time of about 15 to 55 minutes, as well as **noise pollution**.

**Our project** plans to tackle this problem by providing the rangers with **groundbreaking situational awareness**.



# OUR VISION

**Our vision** is clear: providing a **silent eye in the sky** to strive for a future where **wildlife can thrive**. We value your **potential sponsorship** as a **critical contribution** to this vision.

On average, poachers kill **96 African elephants** and **two rhinos every day**. Our project plans to tackle this problem by developing a **silent long-endurance drone** that can **autonomously and unobtrusively monitor large areas**, supporting rangers in preserving wildlife.

We are an **ETH Zürich Focus-Project**, pushing the boundaries of technology, composed of **10 highly motivated students** who want to use the theory learnt in the first two years of their studies to have a **positive impact**.

Together, we personify **craftsmanship, creativity and curiosity**. Moreover, we are driven by **perseverance, precision and respect** - words that every ETH engineer lives by.

What deeply connects our whole team is our **care for wildlife** and **incentive to act!**

# NATURE'S SILENT EYE IN THE SKY

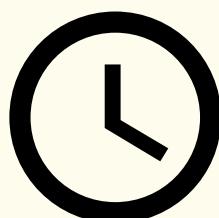
We intend to offer a **comprehensive solution** by engineering a **drone equipped** with a multitude of **advanced sensors and cameras**, with the ability to **fly for an entire night**. To achieve this, we will **maximise energy efficiency** by optimising the powertrain and aerodynamics of the aircraft.

We aspire to equip conservationists with an **Eye in the Sky, silent and unnoticed** by animals and poachers alike. **NOCTUA's drone** would combine **autonomous navigation** with **vertical take-off and landing (VTOL)**, to cover large pieces of land during **day and night**. By combining **visual and thermal cameras**, we want to be able to **detect poachers** even in **low visibility situations**, when they are most likely to strike.

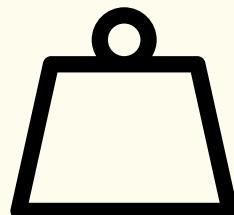
While we remain **open to various use cases** and implementations for our drone, we **firmly** and **unequivocally distance ourselves from any military applications or intentions**.



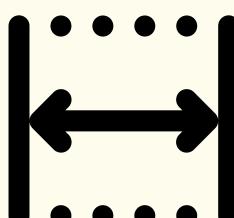
# NOCTUA IN NUMBERS



**12h flight time**



**4 kg payload**

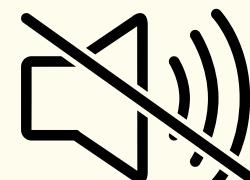


**20 km transmission range**



## Sensors

Visual Camera, Thermal Camera,  
GPS, IMU



**<35 dB of noise**

# THE TEAM



**Alfonso Maculan**  
Project Lead &  
Controller Design



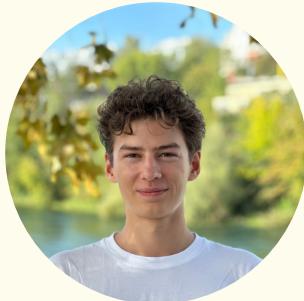
**Diego Malsiner**  
Systems Engineer  
Structures



**Felix Muller**  
Software Architecture



**Simone Morandi**  
Structures



**Yegor Gorodzha**  
Electrical Systems



**Mark Benazet**  
Controller Design &  
Software Architecture



**Nick Truttmann**  
Simulation



**Jakob Marten**  
Structures



**Raffael Meier**  
Aerodynamics



**Nicola Fiore**  
Aerodynamics

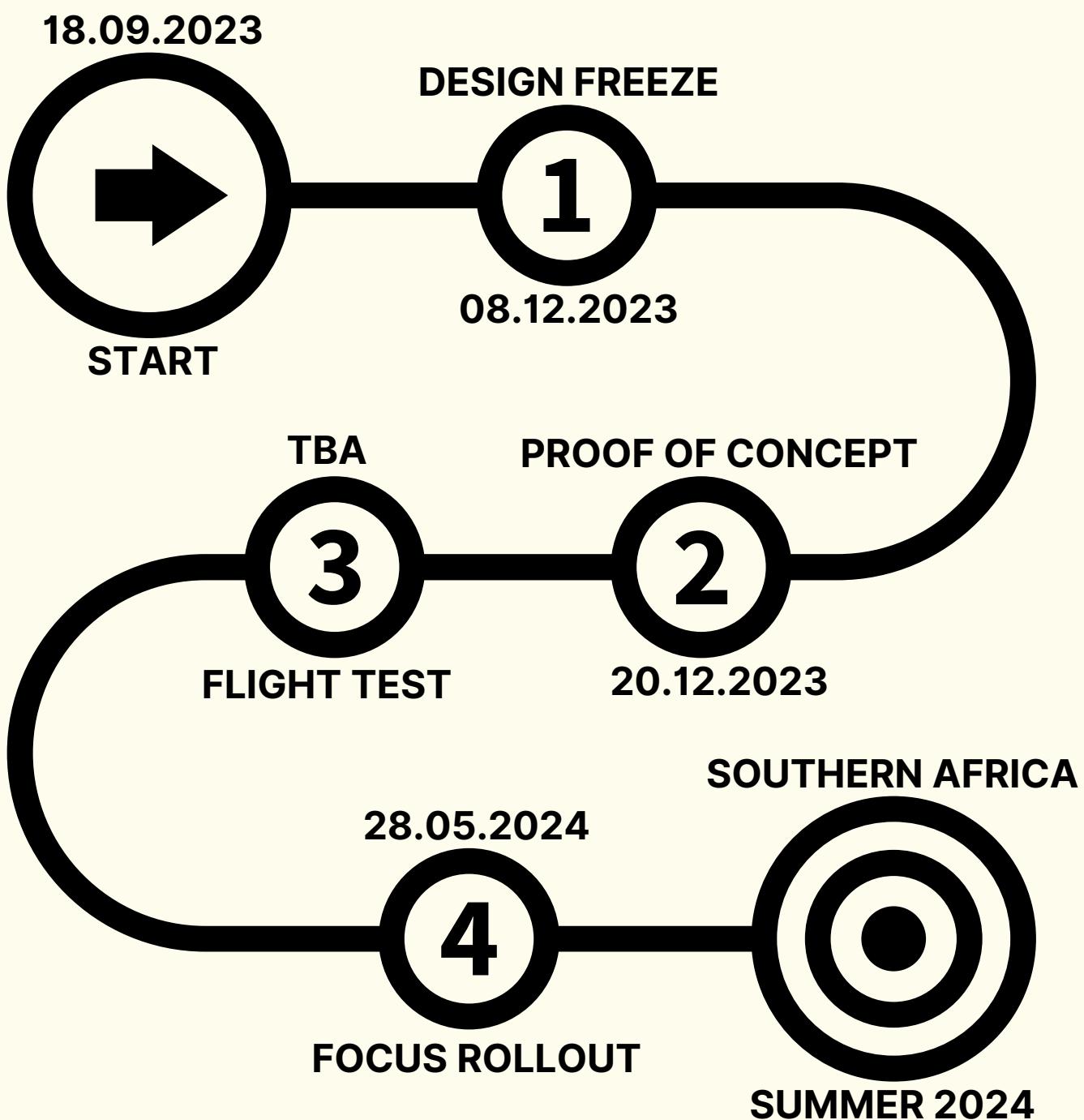
# FOCUS PROJECT NOCTUA

To **accomplish these goals**, we have help from some of the **best scientists and engineers** in the world. We are under the supervision of the **Soft Robotics Lab**, the **Institute for Dynamic Systems and Control**, the **Laboratory of Composite Materials and Adaptive Structures** and the **Product Development Group Zurich** of the mechanical engineering department D-MAVT.

At **ETH Zürich**, **Focus Projects** are revered as **prestigious and highly sought-after** initiatives for **third year Bachelor engineering Students**. They also serve as a **magnet for potential students**. Our projects garner **intense curiosity** from students, researchers and companies alike, with the **end-of-May rollout** being a **highlight on the ETH calendar**.



# ROADMAP NOCTUA



# EXPERTS



Prof. Dr. R. Katzschmann



Prof. Dr. P. Ermanni



Prof. Dr. M. Zeilinger



Prof. Dr. M. Meboldt



Dr. A. Carron

# COACHES



Benedek Forrai

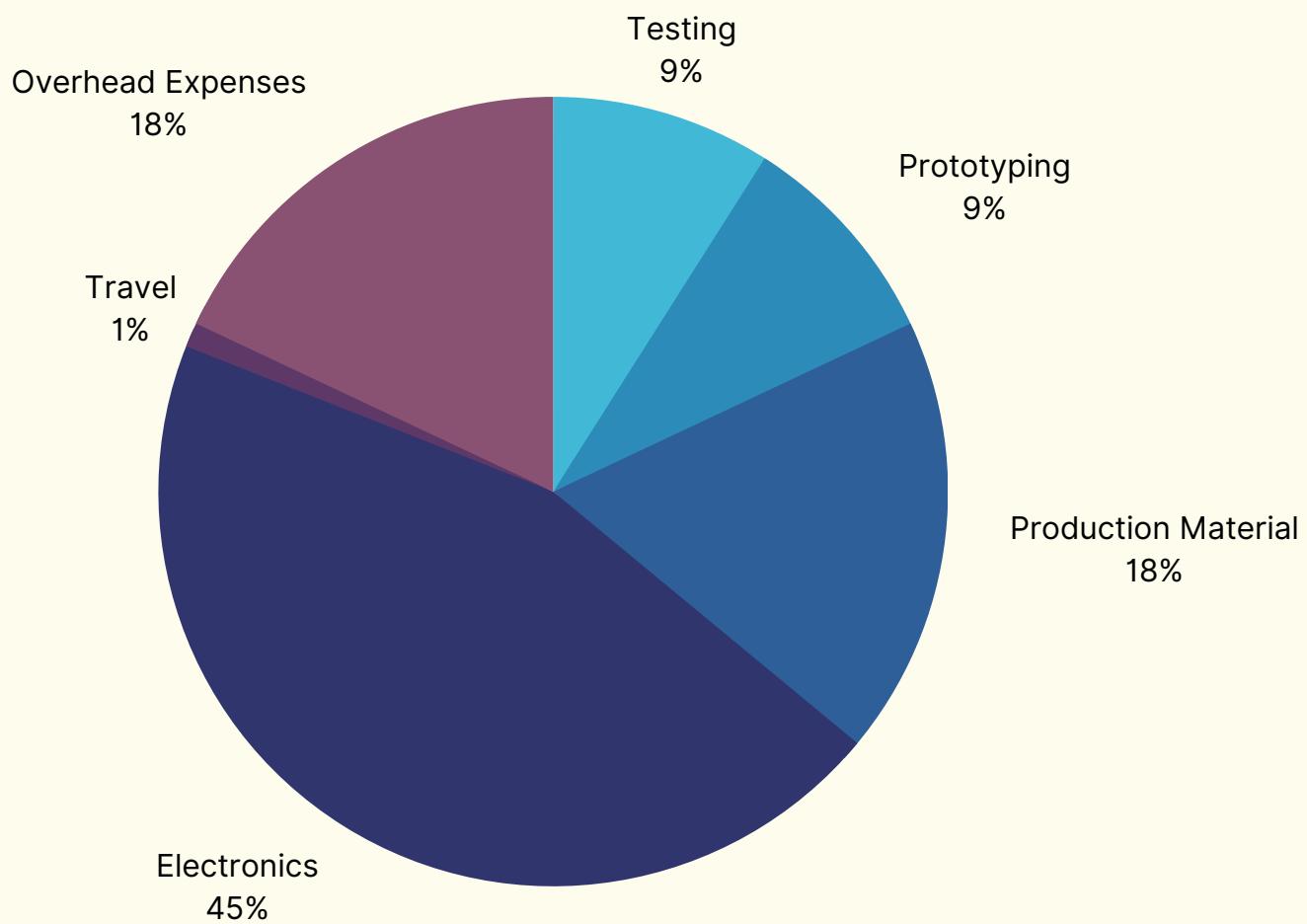


Pascal Strauch



Marc Blöchliger

# BUDGET



# SPONSORING

**Sponsoring NOCTUA** brings with it **numerous benefits** for you and your company. Depending on the **sponsoring tier** you choose, you will be **visible on our website, social media, events** and more, all in a highly innovative and creative environment. **Your logo** could even end up **on our drone!**

**Focus Projects** boldly push the **boundaries of technology** and embrace **innovation**. This makes them the ideal platform for companies seeking **collaboration with members of ETH Zürich**. You will gain access to the **amazing talents** that ETH Zürich produces. It is an opportunity to **position your company as an innovator** and **showcase groundbreaking products**.

We are open to **various forms of sponsorship, not limited to financial support**. Your contributions of **technical components or services**, crucial for the development of this drone, are **highly appreciated**.

If you or your company is interested in a **customised solution** or have any questions, **contact us**. We are **flexible and look forward to working together!**



# SPONSORING BENEFITS

	<b>Diamond</b> from 10'000CHF	<b>Gold</b> from 5'000CHF	<b>Silver</b> from 2'500CHF	<b>Bronze</b> from 1'000CHF	*
Webpage Logo	XL	L	M	S	
Rollout Invitation	✓	✓	✓	✓	
Social Media	POST++	POST+	POST	STORY	
Merch Logo	L	M	S		
Custom Solution	✓	✓			
Event**	✓				
Logo on Drone	✓				

POST+ : Post every three months

POST++ : Post every month

\*: Donations lower than CHF 1'000 will appear on our webpage as donors.

\*\*Event: Sponsors will be invited to future events of the Project

# WE AWAIT YOU

**NOCTUA** extends its deepest gratitude to all our partners, sponsors, and collaborators who **share our vision** of creating a **future where wildlife thrives**. Together, we can push the boundaries of technology, **protect** our planet, and make a **lasting impact**.

Your support and commitment propel us forward. As we continue our journey to provide Nature's Eye in the Sky, **we invite you to be a part of our mission**.

Contact us today to explore how you can **contribute** to a brighter and more **sustainable future**. Together, let us soar to new heights.

With heartfelt gratitude,

Your **NOCTUA Team**

# CONTACT INFORMATION

## CONTACT MEDIA

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