# Autonomous flying drone for building surveillance



Base / Charging station

Team Red One

Luft (Atrium)

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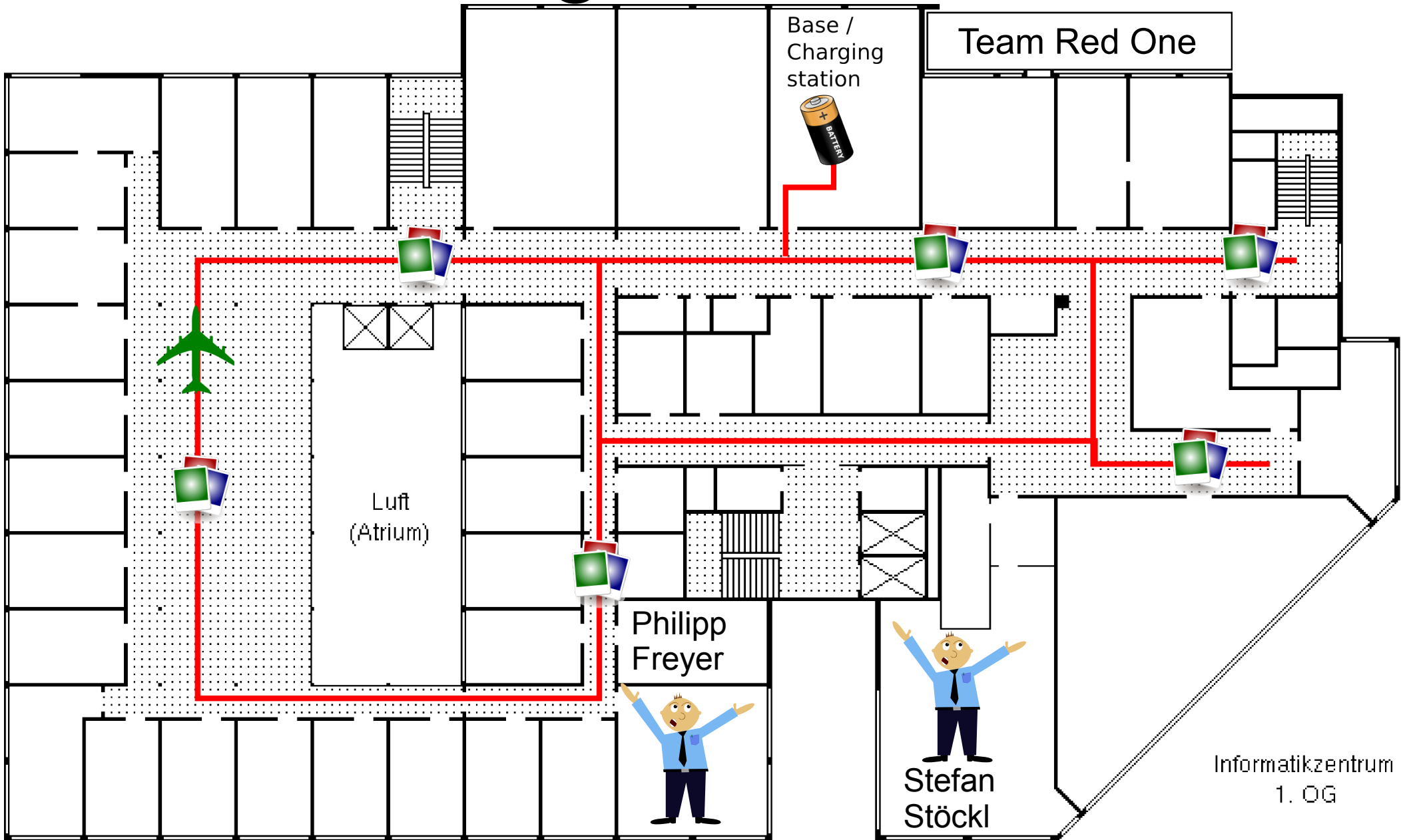
# Topic Motivation

- Use AR drone for building surveillance

- Addition to existing watchmen

- Fly a predefined path through a building

- Videostram of the drone's camera image to the guard-room

- Take pictures of points of interest for security archive

- Learns map of the route for case of occluded waypoints

# Done so far

- Read image stream into OpenCv images

- Find red lines in the image

- Extract vector path from lines

- Concept for Map

- Implemented basic control node

- Testing & Debugging
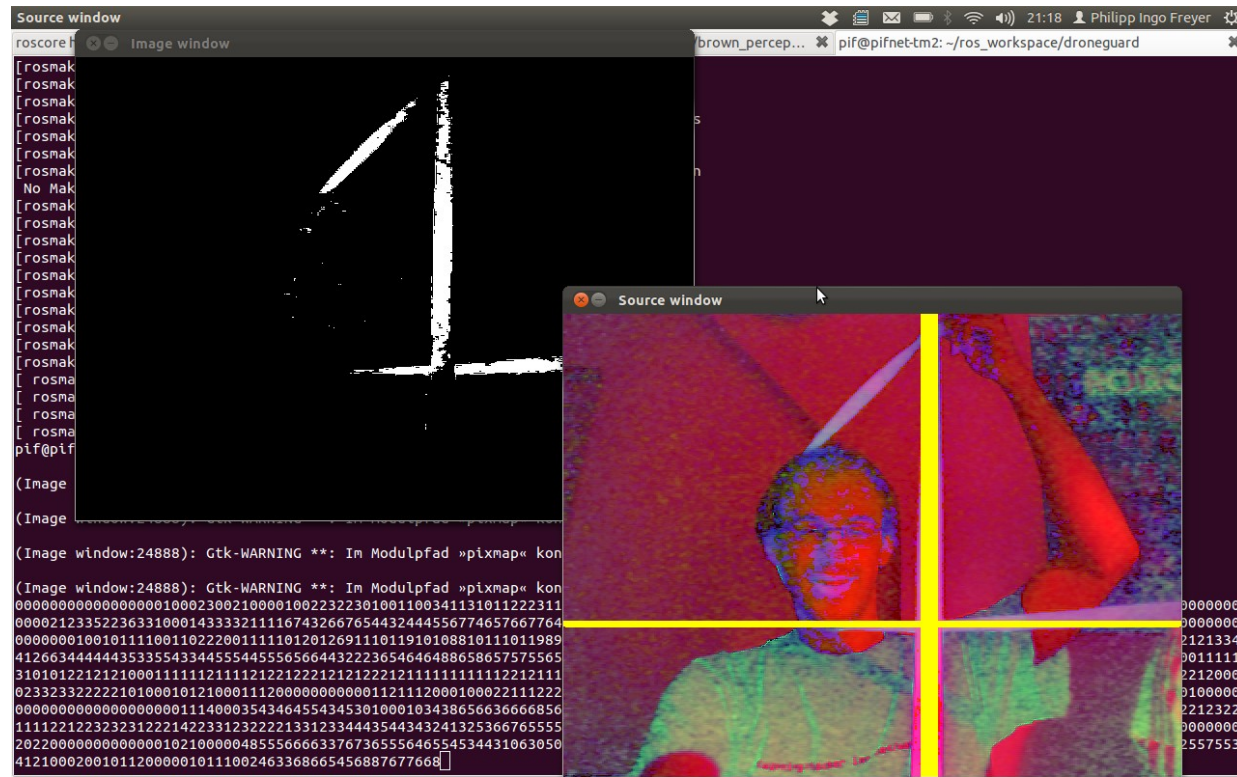
# Problems, we had

- Team lost a member due to time issues
- Control node had problems finding the correct point on the line to go to
- Some formulas were incorrect
- In bad light, th eline was not visible clear enough
  - → Strap a light to the drone

# What can we do?

- Actually follow the line
- Include ar_recog for marker recognition
- Include marker database for EKF position correction
- ~~Find crossways~~
- ~~Send waypoints out of EKF to Map~~
- ~~Implement battery monitor~~