

## IROS 2015 – The new research UAV AscTec Neo

28. September 2015



**IROS 2015: Prospective authors are invited to submit high-quality papers representing original results in all areas of intelligent robot components, systems, and applications. Among many other exhibitors like BOSCH, CLEARPATH, DJI, Google, iRobot, KUKA and many technical universities and labs, Ascending Technologies will be exhibiting there ... and present something spectacular: A brand new research UAV including a 360° depth camera with Intel RealSense technology.**

### **IEEE/RSJ International Conference on Intelligent Robots and Systems – IROS 2015**

As gateway to the era of robots and intelligent systems this year's [IROS](#) will take place in Hamburg, Germany, September 28 – October 02, 2015. The 2015 IEEE/RSJ International Conference on Intelligent Robots and Systems will be located at the Congress Center Hamburg (CCH) at the Dammtor train station, within walking distance from the Alster lake and the town center. Hamburg Airport is well connected with all major cities in the world. The theme of this year's [IROS](#) conference is “Gateway to the Era of Robots”, as the city of Hamburg is also known as Germany's “Gateway to the World”.

# ASCENDING TECHNOLOGIES

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Press Release /// Pressemitteilung

## Premiere of UAV AscTec Neo at IROS 2015

AscTec Neo is the name of the latest unmanned aircraft system from Ascending Technologies. It is designed to enable cutting-edge UAV research. The fully – indeed fully – redundant UAV provides a perfect synthesis of AscTec Trinity autopilot technology, the established weight-performance-ratio and modular design as well as fallback safety. An improved real-time safety recovery systems guarantees safe evaluation of your algorithms on one controller and at the same time to opportunity to switch back to two redundant controllers even in flight.

Quelle: <http://www.tagesschau.de/wirtschaft/roboter-kongress-101.html>

You can load sensors and devices up to 2 kg maximum payload! A 360° depth camera based on Intel RealSense technology will be available for AscTec Neo. AscTec Neo will be available from Q3 2016. Ascending Technologies will start pre-order from Q2 2016.

## AscTec Neo – UAV Specifications

AscTec Neo – new platform developed & optimized within [EuRoC](#), [TRADR](#) & [AEROWORKS](#).



The flyer features a central image of the AscTec Neo UAV, a white quadcopter with black propellers and landing gear. The drone is shown from a front-three-quarter view. Above the drone, the text 'ASCOTEC Neo' is displayed in a bold, black font with a red triangle above the 'o'. To the right, the Ascending Technologies logo is present, consisting of the word 'ASCENDING' in a large, bold, black font above 'TECHNOLOGIES' in a smaller, bold, black font, with the tagline 'Amazing Technology!' below it. A red banner at the bottom of the flyer contains the text 'The cutting-edge research UAV!' in white. In the bottom left corner, there is a yellow box with black text: 'Fully redundant UAV! Payloads up to 2 kg! Optional 360° depth camera with Intel® RealSense™!'. In the bottom right corner, there is a circular red seal with white text: 'PERFORMANCE, PRECISION, SAFETY' around the top edge, 'AscTec Trinity' in the center, 'A new era of flight control.' below it, and '3X REDUNDANT' at the bottom. To the right of the seal is the German flag and the text 'Developed & Made in Germany'. At the very bottom right, it says 'BY ASCENDING TECHNOLOGIES'.

[Download the IROS / AscTec Neo flyer.](#)

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## Configurations:

- Hex
- 9" propellers
- 11" propellers
- AscTec Trinity flight controller

## Key Features

- Payloads up to 2 kg
- Total weight below 5 kg
- Flight time: up to 26 mins
- Space-saving transport:
  - Folding propellers
  - Detachable motor booms
- Efficient (and redundant) propulsion system:
  - High-performance motor control with FOC (Field Oriented Control)
  - Active braking and energy recovery system
- Triple redundant flight controller (with stock firmware)
- Redundant power supply with smart batteries
- AscTec Trinity with user-programmable module (STM32F4)
- Standardized mechanical interface

## Flight controller

- **AscTec Trinity:**
  - 3 x fully equipped controllers + all sensors
  - Redundant flight control at all times
  - Real-time safety recovery:
    - Safe evaluation of your algorithms on one controller
    - Switch back to two redundant controllers is always possible (even in flight)
- **User Interfaces:**
  - One AscTec Trinity module fully user-programmable (Cortex-M4 + FPU @ 180MHz)
  - SDK provided free of charge with open-source tools
  - Receive IMU data at high rates (raw + filtered)
  - Various control commands available
  - Electrical interfaces: UART (up to 2), I2C (up to 2), SPI, CAN, PWM (2x), USB (host or client)
  - Multiple power outlets (battery voltage, 12V, 5V)

## Optional Payloads

- Intel NUC with Core i7-5557U (4 x 3.1 GHz, 8 GB RAM, 128 GB M.2 SSD, USB 3.0, Iris Graphics 6100)
- 360° depth camera with Intel RealSense technology

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- AscTec Atomboard v3 (4 x 1.91 GHz Intel Atom, 4 GB RAM, 64 GB SSD, USB 3.0)
- Various camera mount options
- Propeller protection
- Laser scanner, optical flow sensor etc.

Tags: [UAV Research and Development Projects](#), [UAV Obstacle and Collision Avoidance](#), [UAV Service – Sales & Support](#), [UAV Technology Trends and Visions](#)

Category: [Ascending Technologies](#), [AscTec Research Line](#), [AscTec Trinity](#), [UAV for Computer Vision & SLAM](#), [UAV for Flight Dynamic & Precision Control](#), [UAV for Robotics & Automation](#), [UAV for Swarming & Networking](#)