

SAMPLE IV Project – Measurement Campaign at INTA

Evaluation of Emissions in Aviation Engines to Improve Regulations

13.12.2024. – During the week of 14 October, the Energy and Environment and the Manned Aerial Platforms Area participated in the emission measurement campaign of the **SAMPLE IV** project, funded by **EASA (European Union Aviation Safety Agency)**. This campaign, carried out at the **National Institute for Aerospace Technology (INTA)**, focused on measuring emissions from one of the **PW127G** engines of the **PAI C-295**, which belongs to INTA.

During the campaign, particulate matter emissions were primarily measured, including mass and number concentration of particles and particle size distribution. Additionally, **CO₂** and **CO** emissions from the engine were measured. For this purpose, a measurement probe was placed at the engine's exhaust plane, which collected the emissions and directed them through sampling lines to the measurement equipment. This equipment was located both on the probe structure and in a cabin 25 meters away to avoid losses.

The emissions were monitored in real-time, allowing observation of their evolution as the engine power conditions varied. The next step is to conduct a thorough analysis of the obtained data, with the ultimate goal of informing and proposing improvements to regulations on emission measurements in aviation engines with a thrust of less than **26.7 kN**.



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