AW DRONES

Session Overview

Damiano Taurino – AW-Drones Project Coordinator

This project has received funding from European Union's Horizon 2020 Research and Innovation Programme under Grant Agreement No°824292.

What is AW-Drones?

AW-Drones is a **3-years** Coordination and support action (CSA) funded under the EU H2020 program.

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FLIGHT SAFETY FOUNDATION MEDITERRANEAN "Never take safety for granted"

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What AW-Drones stands for?

- Originally AirWorthiness of mass-market Drones
- Scope enlarged to cover drone operations, U-Space, autonomous UAS

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New headline: Harmonising drone standards to support the ongoing EU regulatory process

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The problem

- **Lack of harmonised** standards is **holding back** the development of drone-related business, both at a global level and in Europe
- Several studies and surveys identify **a reliable regulatory and standardisation framework** as one of the main potential **boosters** for the drone business
- To foster the growth of safe drone usage, there is a need to implement **coherent and interoperable** global standards for drones in the EU

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Our objectives

- **Collect information** on on-going and planned work with regards to technical and operational **standards** developed for drones worldwide
- Carry out a **critical assessment/benchmarking** of all collected data to identify best practices, gaps, bottlenecks and applicability
  … in other words a "metastandard"
- **Propose** and **validate** a well-reasoned set of standards for each category of drone operations
- **Engage** with key stakeholders and end-users, i.e. representatives of the whole drone value chain

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Scope

- Year 1: Standards required to support effectively the Specific Operations Risk Assessment (**SORA**) methodology
- Year 2: Standards supporting the development of **U-Space** in Europe (+ 2nd iteration of SORA)
- Year 3: Standards needed to support the operation of **highly automated UAS** and to ensure that they can be operated safely in a variety of applications

Iterative approach throughout the project duration

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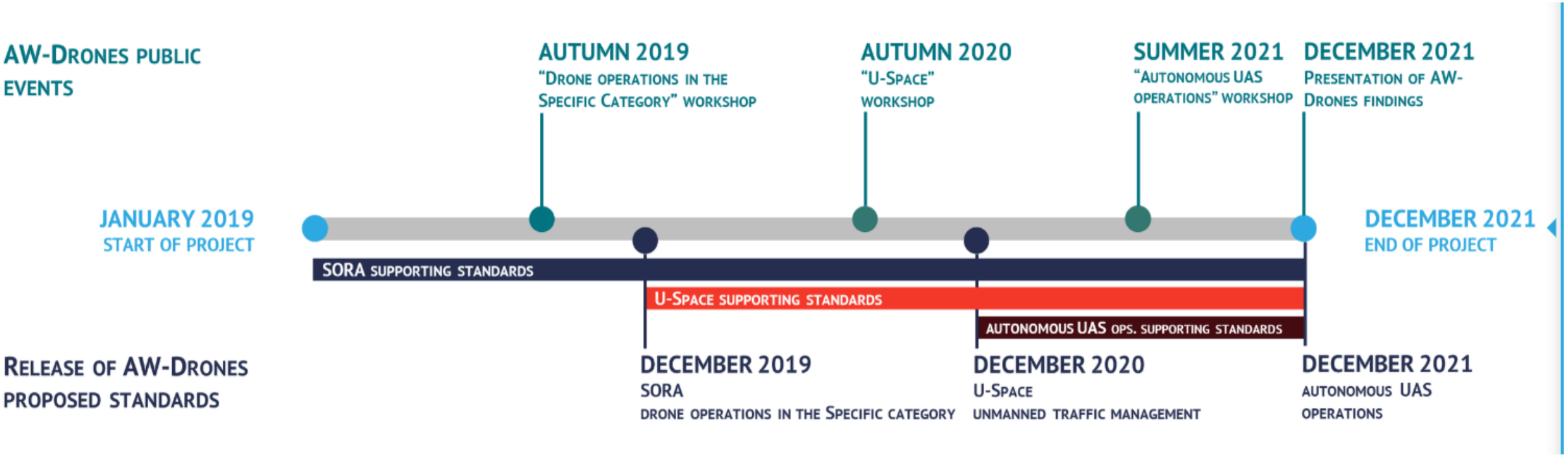
Project timeline – where we are now



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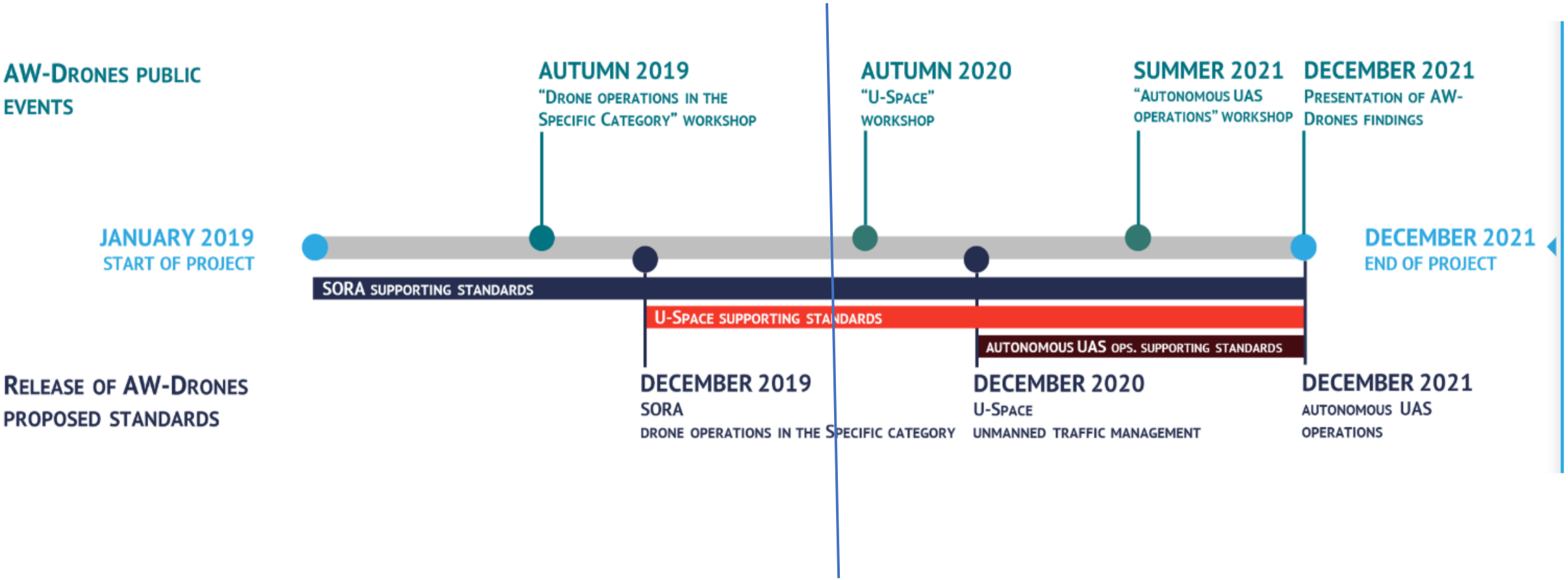

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Stakeholders

- **European Commission (DG-MOVE, INEA)**
- **EASA**
- CAA Representatives
- Standard Making Bodies Representatives
  - EUROCAE, RTCA, ISO, ASTM, ASD-STAN, …
- UAS Manufacturers
- UAS Operators
- UTM Service Providers
- Research and Academia

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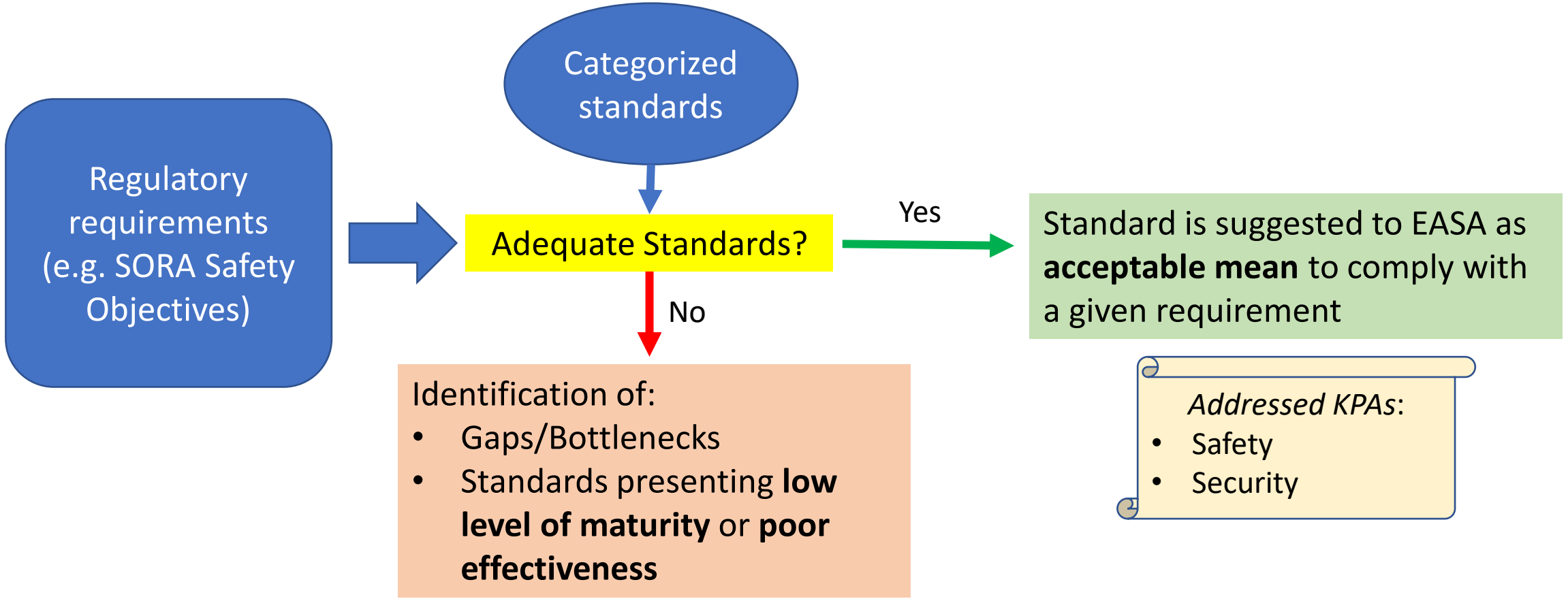
Our flow



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Outputs

- A **yearly report** about “State-of-the-Art” of standards for UAS
- A yearly report containing a **“well-reasoned” set of standards:**
  - Applicability
  - Maturity
  - Effectiveness
- An **open repository** containing structured information about technical rules, procedures and standards for drones worldwide, including applicability to different UAS OPS categories and different SAILs (Specific Assurance and Integrity Levels)

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Experts' involvement

- **EASA** and **DG Move** give feedback and steer the work in dedicated workshops
- **The Advisory Board** (made of regulators, manufacturers, operators, standard making bodies)
  - supports the methodological work of the project
  - provides review, recommendations and feedback on project activities and findings
  - brings an external view

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Additional Stakeholders' involvement

- Additional stakeholders are able to contribute through:
  - Online surveys
  - Public Workshops
    - **Workshop 1 (September 2019)**: Review of the collected set of standards to support effectively the Specific Operations Risk Assessment (SORA) methodology
    - **Workshop 2 (November 2020)**: Review of the collected set of standards to support U-Space implementation
    - **Workshop 3 (June-July 2021)**: Review of the collected set of standards/principles for Autonomous UAS certification
  - Strong relationship with **Standard Making Bodies** (EUROCAE, ISO, ASTM, ANSI, ...) and with **working groups** (EUSCG, JARUS, …) to avoid duplications and maximize the impact of the action

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In a nutshell

Top-down approach

YEAR #1 SORA - Specific Operation Risk Assessment

YEAR #2 Unmanned Traffic Management

YEAR #3 Autonomous drones

Bottom-up approach

1. Synthesis of Assessment Results

2. Internal and external Review

3. Standard Assessment

4. Standard Selection

Assessment Results

Yearly report on drone standards State-of-the-Art

Gaps and bottlenecks

Yearly report on validated stadards

Open Repository

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What we do not do

- AW-Drones does not draft UAS regulation
- AW-Drones does not produce UAS standards
- AW-Drones does not assess the technical quality of UAS standards

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Next Presentations

- Performance-Based Regulation: the role of industrial standards and the AW-Drones meta-standard *(Filippo Tomasello, Marco Ducci)*
- Collecting and structuring drone-related global standards (*Sebastian Cain, Joost Vreeken*)
- Assessing drone standards against regulatory requirements (*Matteo Natale*)
- The AW-Drones Open Repository (*Ilias Trochidis*)
- U-Space regulatory framework and the related standards (*Andres Van Swalm*)

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Questions?

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Follow us!

http://www.aw-drones.eu/
(sign in the newsletter)

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Thank you for your attention

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