

1. PUBLISHABLE SUMMARY

Summary of the context and overall objectives of the project (For the final period, include the conclusions of the action)

The use of professional drones for the inspection of infrastructure and land surveying has been increasing incredibly over the last years. However, there are technological limitations in the wireless communication systems that connect the drone and its operator. The inspection drone cannot fly further than a few hundred meters from the operator, resulting in economically unviable services. If an inspection drone attempts to cover longer distances (km), the limitations of current communication systems endanger the mission, risking infrastructure, people on the ground and the drone itself. From the market perspective, these limitations negatively bound innovation and growth of drone-based businesses. The majority of the drone manufacturers have been adopting communication systems based on readily available Wi-Fi solutions, which is not a reliable technology for real-time remote operation of airborne vehicles. Wi-Fi is highly susceptible to interference and was designed for short-range wireless network communications, with intermittent transmission. A drone requires a continuous long-range data link.

TWEVO is a high-tech start-up that has developed a wireless modem for drone communications, called REVOsdr. It provides reliable and secure long-range real-time connectivity. It unravels the true commercial value of drone-based services.

The overall objectives of this project are to provide the foundation for a solid business plan (technical and market perspectives), encompassing operational and sales strategy, management, marketing, legal and IP requirements.

The main conclusions of this project are the confirmation of the business idea, certainly updated in the course of the project, grown and matured. REVOsdr's technical maturity is reaching the later TRL stages. But the real-life evolution was not only technical-dependent, but highly influenced by the commercial and business development, fundamentally interlined with customer needs. The worldwide radio regulations are relevant for large global corporations entering the drone market and its compliance can not be neglected.

Work performed from the beginning of the project to the end of the period covered by the report and main results achieved so far (For the final period please include an overview of the results and their exploitation and dissemination)

Market Assessment: A) In-depth Market Assessment: collecting detailed information (i.e. state-of-art solutions, performance metrics, technical and market KPIs) for the data link and SDR sectors through market research and business data bases. The goal was to consolidate REVOsdr value proposition based on in-depth competitors profiling, i.e. financials, operations, sales and executive reports. B) Regulation and Legal Factors: To achieve successful product development and commercialization, TWEVO aligned REVOsdr development according to regional/international compliance and regulations in Europe and the US.

Business Strategy and Commercialization: A) Strategic Partnering: reaching drone manufacturers/integrators, putting forth REVOsdr's testing program. After the initial work undergone with such partners/Clients, TWEVO is discussing collaboration mechanisms with them. B) MVP: continuous interaction with customers provided the means to assess REVOsdr's competitive advantages, fitting early adopter/initial Client needs. This validated the technology and provided feedback, through

iterative incremental product development. C) E-Commerce Storefront: opened TWEVO's online storefront, to sell REVOsdr OEM boards and boxed versions, as well as REVOsdr demonstrations. Supply Chain Management: as a part of the product development and planning, we have assessed the hardware and services' suppliers needed to commercialize REVOsdr. This enable us to get a close estimate of the production cost and logistics processes.

After our direct market assessment and lessons learned, our business idea stays solid. It is being confirmed by interested, eager future Clients. And we have moved closer to the market. The work under SME Instrument Phase 1, along with its confirmed business idea, has aided TWEVO in crossing key commercial, business and technical thresholds.

As a result of the project, we have concluded that the direct contact with prospective Clients/Early Adopters, understanding and sensing their technical and commercial needs, is efective strategy to sell our product. These have brought us close to the market, adapting to it. We have confirmed that our planned prices (as well as their evolution) are acceptable.

Being close to the market via paid demonstrations for a very diverse type of clients further confirms the real and large demand for reliable wireless links for drones. It confirms our Go-to-Market strategy, bringing a uniform standardized solution to the market, instead of only a customized solution. We have realised that demonstrations are a strong and effective opportunity to build-up the direct contact, attention, trust and feedback from our largest and most valuable Clients. All our prospective commercial effort, under the SME Instrument Phase 1 umbrella, points to favour a direct sale solution. A storefront has a complementary role, to support further sales and feed the follow-up of running contacts, in the downstream. The internet communications component of our business may be less effective in the reach of monetisation and returns, but is a long-term objective, showing our presence in the market.

By the end of REVOsdr SME Instrument Phase 1, a group of 14 industry players have been directly reached, leading to the REVOsdr forecasted 1st year sales.

Progress beyond the state of the art, expected results until the end of the project and potential impacts (including the socio-economic impact and the wider societal implications of the project so far)

The main result of the work under SME Instrument Phase 1 is the confirmation of the business idea, certainly updated, grown and matured in the course of the project. The direct contact with prospective clients/early adopters, understanding and sensing their technical and commercial challenges, provided a valuable insight on our client's needs. This knowledge enable us to translate their needs into technical requirements that steered the evolution of our product.

The significant effort put in the survey of EU and US radio regulations had a two-fold impact. First, it resulted in a set of technical requirements, taken into consideration in the evolution of the product. Second, it help build confidence in global corporations to move forward with our relationship.

Additional survey, and the feedback of our customers, on our competitors, enable us to improve our product's differentiation and refine its value proposition.

The direct contact with the customers in multiple occasions, and the dissemination of our achievements in the social media, boosted the visibility of our company, generating new leads.

Address (URL) of the project's public website

<https://twevo.net/products/revosdr/>

Boxed REVOsdr

