



# INGENIOUS

## INGENIOUS: Final Event

SMALL SCALE TESTS (SSTs)



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# Small Scale Tests (SSTs) overview and objectives



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Two rounds of Small Scale Tests combine tools in the field (18 tests in total).

## Each round:

- Select group of tools to validate the prototypes
- Provide the prototypes for the field exercise
- Tested and continue the developments according to the feedback

## SSTs agenda:

- Training, End users' hands on session
- Demonstration
- Discussion
- Evaluation form

1 <sup>st</sup> round of SSTs						
Period	Exercise ID	Components / Systems	Use Case	Responsible Partner	Attending Technical Partners	Attending End Users
M23 to M26	SST #1	(1) Helmet, (2) Augmented Reality Services	Toxic gas leakage after an industrial accident (M-S <sub>2</sub> -I-UC <sub>1</sub> )	SBFF	KIRO, CS	NFFK, ERTZ, SAMU, PSNI, ISAR
	SST #2	(3) Gas sensor	Toxic gas leakage at an industrial site (M-S <sub>2</sub> -I-UC <sub>2</sub> )	ERTZ	ALPES	PSNI
	SST #3	(4) Uniform, (5) Boots	Response to a large forest fire (N-S <sub>3</sub> -F-UC <sub>1</sub> )	SBFF	TEK, CvRIC	ERTZ, HRTA, ISAR
	SST #4	(6) K9 Vest	SAR in Flooded wide area and enclosed space (N-S <sub>3</sub> -FL-UC <sub>2</sub> )	ERTZ	ICCS	ISAR, PSNI
	SST #5	(7) Field Communication, (8) MAX, (9) Swarm of MINs, (10) Deployable IPS (S) & Large-scale mapping	Attack in public space with damaged buildings and trapped victims (M-S <sub>3</sub> -T-UC <sub>5</sub> )	ERTZ	ICCS, SINTEF, DLR	HRTA, ISAR, NFFK, SBFF
	SST #6	(11) Triage App/ DVI & Face Recognition App	Patient biometrics after triaging in an industrial accident (M-S <sub>2</sub> -I-UC <sub>3</sub> )	PSNI	ICCS	SAMU, ISAR
	SST #7	(12) Fusion Engine & Expert Reasoning, (13) Worksite Operations App	SAR in damaged block of buildings (N-S <sub>2</sub> -E-UC <sub>3</sub> )	HRTA	EXUS, CERTH	ERTZ, ISAR, PSNI
	SST #8	(14) Social Media App	Response to a large forest fire near residential areas (N-S <sub>3</sub> -F-UC <sub>3</sub> )	HRTA	CERTH	ERTZ
	SST #9	(15) COP Platform & C3, (16) Multilanguage Operations App	Response to a large forest fire spreading fast due to weather conditions (N-S <sub>3</sub> -F-UC <sub>2</sub> )	SBFF	UPF, STWS	ERTZ, SAMU, ISAR

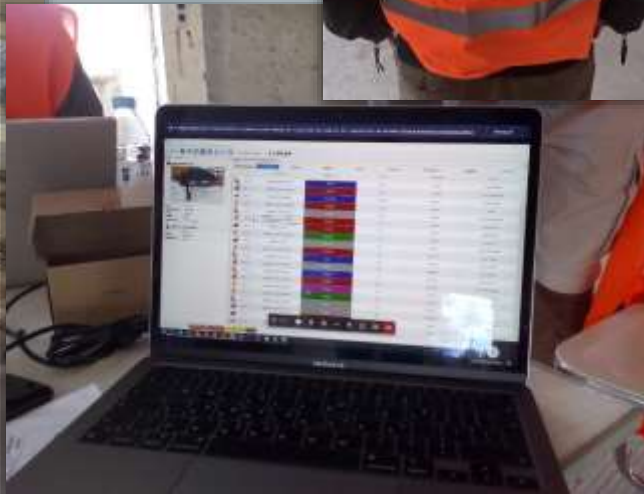
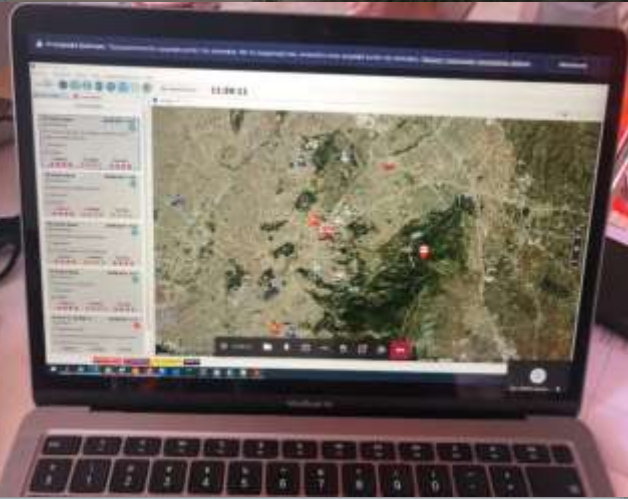
# INGENIOUS Small Scale Tests (SSTs) #7, #8 in Greece / 29 September 2021



Four of the INGENIOUS solutions were tested during the SSTs:

- ✓ Fusion Engine (FE) - EXUS
- ✓ Expert Reasoning Engine (ERE) - CERTH
- ✓ Worksite Operations App (WOA) - EXUS
- ✓ Social Media App - CERTH

The tested components were presented by the Technical partners and FRs interacted during the event with a mixed team from Greece (HRTA) and Spain (ERTZ)



# INGENIOUS Small Scale Tests (SSTs) #4, #5 in Spain / 5-6 October 2021



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INGENIOUS tools and components tested during the SSTs:

- ✓ The K9 Vest by ICCS
- ✓ The Integrated Positioning System (IPS) by DLR
- ✓ The Modular Aerial Camera System – Search and Rescue (MACS-SaR) by DLR
- ✓ The MINs – Micro Indoor drones by SINTEF
- ✓ The Multi-purpose Autonomous eXploring drone, MAX drone by FOI
- ✓ The artificial intelligence (AI) algorithms by ITC

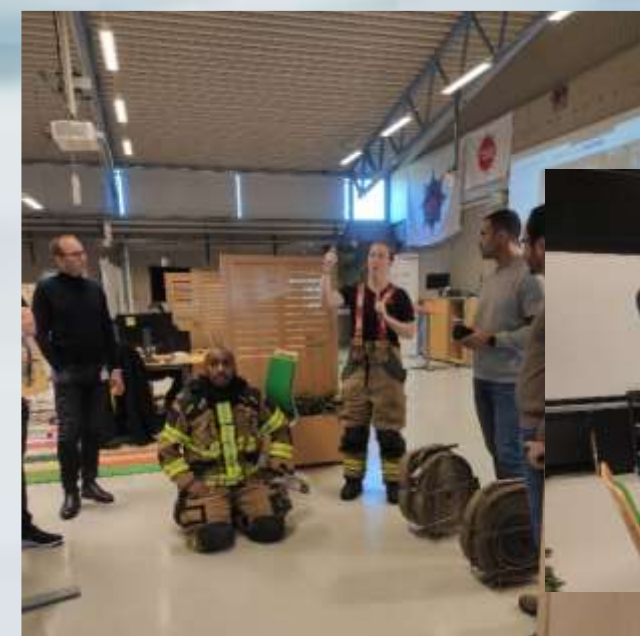


# INGENIOUS Small Scale Tests (SSTs) #1, #3, #9, Sweden / 11-15 October 2021

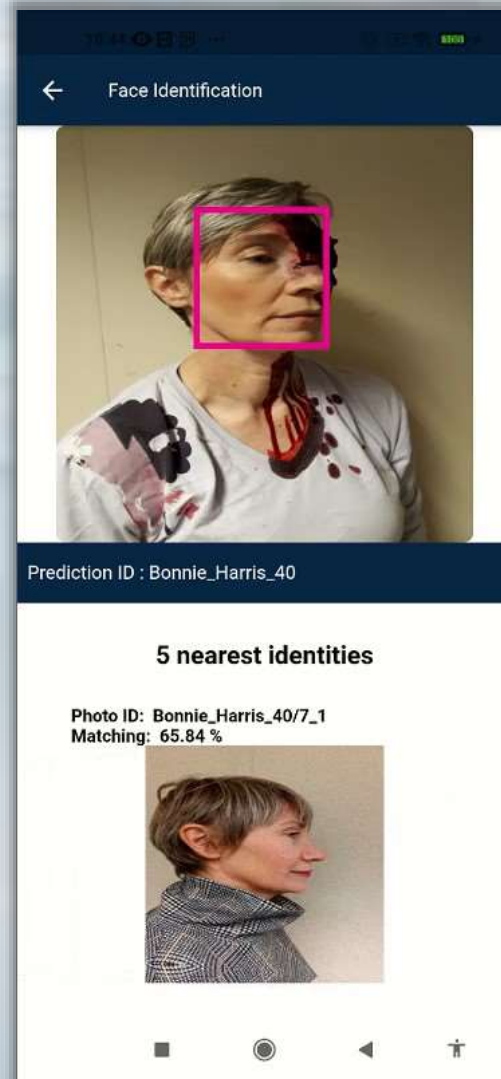


INGENIOUS tools and components tested during the SSTs:

- ✓ The **Smart Helmet** by KIRO
- ✓ The **Augmented Reality Services (ARS)** by CS GROUP
- ✓ The **Uniform** by TEK
- ✓ The **Boots** by CYRIC
- ✓ The **COP Platform & C3** by STWS
- ✓ The **Multilanguage Application** by UPF



# INGENIOUS Small Scale Test (SST) #6 in Northern Ireland / 2 November 2021

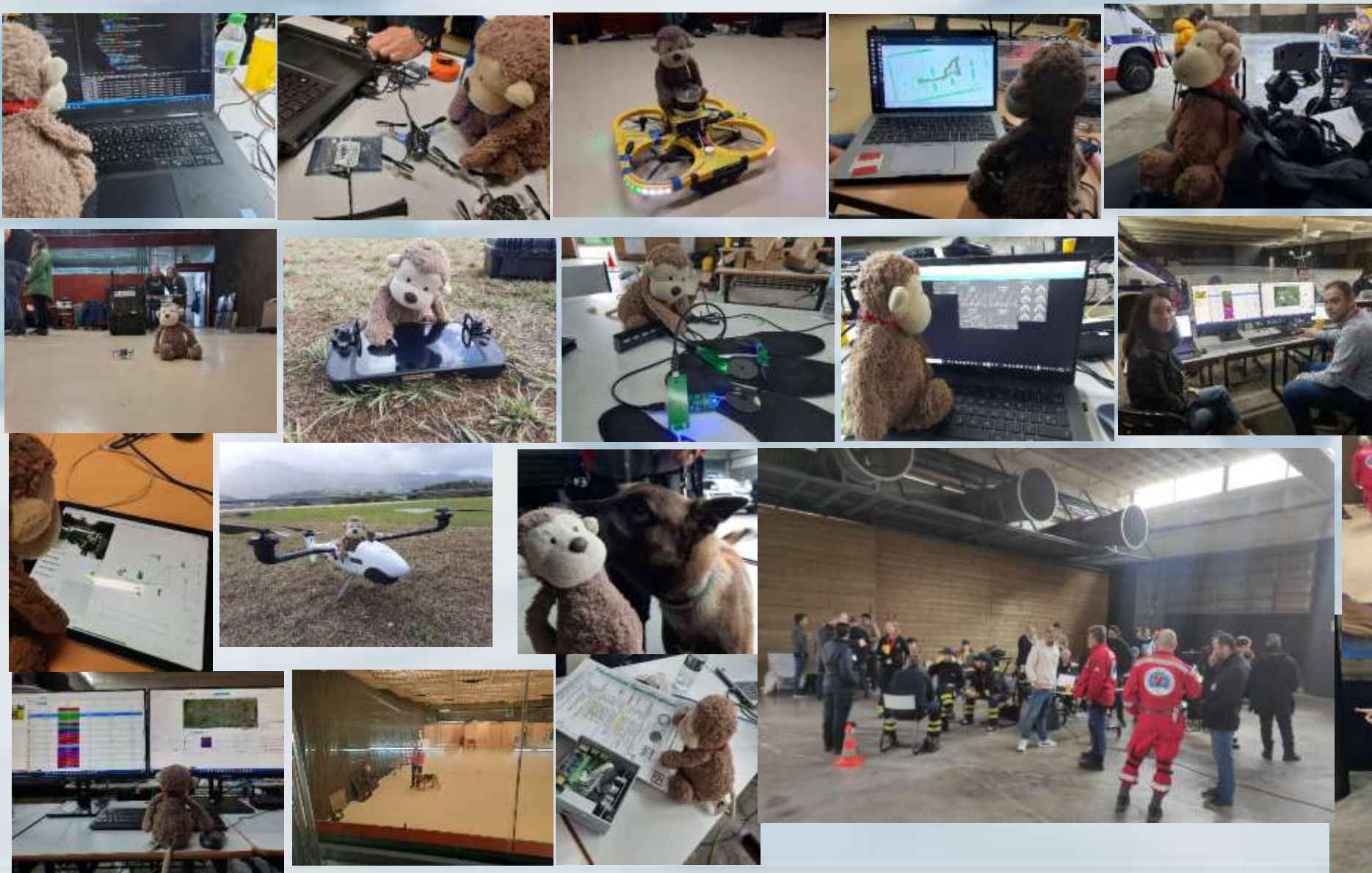


During the SST the INGENIOUS triage application was tested. The team was very impressed at:

- the speed at which the information was uploaded allowing the team more time to carry out other duties
- by the small size and weight, (18 grams) of the triage box meaning it would be unlikely to get in the way of medical interventions or impede transportation of the victim.

The INGENIOUS facial recognition application was also tested. The picture on the left shows an injured face with a 65.84% match with a known dataset. The project will continue to improve on this percentage but it must be pointed out that this is only a step in the full identification process. Human oversight will always take precedence.

# INGENIOUS 2<sup>nd</sup> round of Scale Test (SST) in Bilbao / 26-30 September 2022



- ✓ The individuals in groups use all the tools
- ✓ Push the integration and validate the INGENIOUS NGIT
- ✓ Rehearsal of the 2<sup>nd</sup> and final FSX conducted

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