

STAMINA Romanian Trial Telco

DATE	27 January 2022
PROJECT	STAMINA
EDITOR	INV-Ro

SUBJECT	STAMINA Romanian Trial – Trial Integration Meeting (TIM)
---------	--

PARTICIPANTS	ORGANISATION
Adrian Pasat	BEIA
Alexandrina Nuta	IVN
Alexandros Karalis	EXUS
Amalia Miulescu	BEIA
Ana-Maria Mirzac	BEIA
Anax Fotopoulos	EXUS
Andrei Necsulescu	IVN
Angelina Despotopoulou	INTRASOFT
Arindam Saha	Brunel
Bogdan Enachi	BEIA
Charon van der Ham	CPLAN
Claudiu Alexandru Cicos	BEIA
Corneliu Zaharia	IVN
Crucea Rosie Filial S4	SNCRR
Crucea rosie VRANCEA	SNCRR
Daniel Matei	IVN
Daniel Modoaca	SNCRR
Drazen Ignjatovic	AIT
Elefterios Voumvourakis	SATWAYS

Emilio Cuba	?
Emily Maitland	TRI
Fares Shamasna	EXUS
Fihmi Mousa	MCS-datalabs
Geanina Vintila	BEIA
George Iordache	SNCRR
George Suciu Jr.	BEIA
Ilaria Bonavita	TRI
Ilias Gkotsis	SATWAYS
Leonidas Perlepes	SATWAYS
Loredana Manolescu	IVN
Maria Plakia	EXUS
Marilyn Psomiadi	MoHGR
Maziar Ghorbani	?
Michael Middelhoff	WWS
Nikos Bakalos	ICCS
Patrik Kalera	AIT
Sofia Tsekeridou	INTRASOFT
Susannah Copson	TRI
Ungureanu Ana	SNCRR

TOPICS DISCUSSED

- IVN-Ro: short presentation of Romanian scenario and tools that are intended to be used in the trial.
- IVN-Ro and tools owners: discussions, based on questions formulated by IVN, regarding the possibilities of using/integration of the selected tools in the proposed scenario and in trial itself, and also the relevant needs and requirements of the solutions for the trial.

WSMA tool (EXUS?)

- From WSMA the data are transmitted in the STAMINA platform through an API.

- Variable levels must be set for alerts and warnings.
- Alerts are initiated if a certain threshold is exceeded.
- The data transmission to the CMT is done without the interposition of other transfer instruments.
- EWS can communicate with WSMA (receives information from WSMA).
- From the data received by EWS from WSMA, the end user only sees alerts. If the information is below the threshold set for the alert, the end user sees nothing.
- The WSMA tool looks for posts that use relevant keywords to identify early sources of infection in different communities. WSMA retrieves the content of messages that contain the keywords. Due to the importance of correctly identifying meaningful keywords, it is essential to train end users in this regard.
- Data from social networks can be downloaded in any language.
- The WSMA was created to provide a context or general information regarding public opinion.
- This tool is not the basis for pandemic management decisions.

SmarKo devices (MCS DATA LABS)

- SmarKo can also be used to generate alerts.
- More SmarKo will be provided to end users in February and March 2022.
- SmarKo sends data to the STAMINA platform and the Kafka broker is also used.
- several devices will be physically sent to Romania towards the end of February 2022, at the request of the BEIA partner.
- The devices will be linked to a smartphone application that will automatically send data to the authorities and to STAMINA using the DMHT tool that will process them and send them to other tools that aim to warn the authorities and their action (EWS, CrisisHub).
- The devices will measure vital parameters in real time (temperature, pulse, oxygen saturation, etc.). Through the STAMINA platform, standardized alert messages can be sent to the population of a region, using predetermined threshold values, depending on the decision of the authorities (in Romania represented by the Ministry of Health, National Institute for Public Health and Department for Emergency Situations).

DMHT and IPT tools

- The ownership of the data may belong to a hospital, but also to a specific doctor.
- This tool gives access to existing data (defines who has access).
- Hospitals have the mechanisms for storing, selecting relevant data and publishing them to the press.
- In the training of those with responsibilities in the management of a pandemic, the PPT tool is used using scenarios. In this process are involved modeling tools CHARM and FACS. The modeling tools use data received from DMHT, which has them available by accessing databases from the national authority that collects health data (National Institute for Public Health, in Romania), hospitals and possibly family doctors.
- For table top exercise can be use data from modeling tools, FACS and CHARM. These retrieve data from national databases and other sources. In the STAMINA platform data come through DMHT.

FACS tool

- FACS does not require geolocation information. In principle, general geolocation information can be obtained from open sources. The operation of the tool requires maps, local demographic information and timely case reports from the authorities for that region.
- FACS has the possibility to delimit on the map the county of Calarasi, the place of scenario development in the trial-Ro. FACS can mark 4-5 types of entities: houses, hospitals, commercial areas, leisure areas, offices.

EWS tool

- EWS is ML and is based on rules and information from other tools (e.g. WSMA or SmarKo outputs).
- Warnings and alerts can be configured using the STAMINA Interface.
- Warnings or alerts are issued when certain thresholds (defaulted) of some parameters / variables are exceeded.
- For EWS the data must be in a structured form; can be analyzed data from family doctors, hospitals, SmartKo, ENGAGE, CHARM, etc. in any format, but it is preferred in Excel format.
- Within STAMINA, alerts to the competent authorities in Romania can be transmitted through Kafka, but the EWS tool can take data from sources other than those provided in STAMINA.
- The EWS tool will send alerts to the authorities, especially in situations with an epidemiological impact, which may have a local impact - the closure of schools or malls, cinemas, where crowded may occur.
- Impact predictions for the future can be generated.
- Predictions for the progress of a pandemic use ML.
- We can use either PPT or CrisisHub (which is linked to the action plan) as input to trigger the warning.
- ML mechanisms can be used to make predictions about the impact of such a measure.
- The EWS tool will have access to social media and will be able to filter the information obtained from it. Thus, the EWS tool will not be based on numerical data from social media because obtaining it from "real life" cannot be guaranteed to correspond to the truth in the field.
- EWS also receives numerical data from the CHARM and ENGAGE.

CrisisHub tool

- Different configurations can be entered by the tool owner.
- The rules are flexible, the threshold values must be known and the rules can be set according to these threshold values.
- CMT provides decisions with effect on various actions or parameters to be monitored.
- FACS and CHARM modeling tools can be used to see the consequences of decisions identified by CMT. The modelling can be repeated with several variants of decisions so as to identify the optimal decision (e.g. to distribute a quantity of vaccine to a certain group).

CHARM tool

This tool was discussed with IVN in a previous bilateral meeting.

ENGAGE and EMT tools

- ENGAGE's role is not to manage the situation, but to monitor the hospital availability and to transmit this information to CrisisHub.

- CMT receives information from ENGAGE about hospital availability. A regular communication is made to keep the data up to date on CrisisHub. Through ENGAGE we have access in real-time to the availabilities and shortcomings of each location.

Pandemic Preparedness tool

- The tool can be accessed based on username and password, provided by the tool owner.
- PPT allows to run scenarios using the actions involved, which are triggered at different times. The run can be resumed as many times as we want in the conditions of changing some parameters in order to result a decrease as much as possible in the effects of the pandemic in the case of the run scenario.
- The system allows the automatic running of the scenario from the beginning to the end, without the intervention of the operator.
- PPT can be used to fine-tune scenarios before field trainings. It can also be used for machine learning parts.

Action points

Action points for each tool selected in TRIAL-Ro will be correlated with the possibilities of IVN team to access them team, or of running these tools by the tool owners, or their use within the STAMINA platform.

- For WSMA IVN-Ro will set variable levels / thresholds (parameters measured and transmitted to EWS) for alerts and warnings
- IVN-Ro compiles list of relevant keywords in WSMA for early identification of outbreaks of infection in different communities
- IVN-Ro together with BEIA will participate in the testing of SmartKo devices, when these devices will be physically available, in order to capitalize on the information received from it in TIRAL-Ro
- DMHT and IPT owners agree with IVN-Ro what data are required and in what format to be able to test in DR1
- IVN-Ro provides FACS owner demographic data for Calarasi county and the number of hospitalizations and cases that use medical services for infectious disease.
- EWS owner collaborates with IVN-Ro to identify variables that will be entered into Excel files with data for EWS;
- IVN-Ro, together with the Romanian specialists, establishes the threshold values that will be used for issuing alerts and warnings during the testing of the EWS tool.