

Client: **Ministry of Defence, Administration of the Republic of Slovenia for Civil Protection and Disaster Relief**
Vojkova cesta 61, 1000 Ljubljana

Lead Partner: **University of Ljubljana, Faculty of Social Sciences**
Kardeljeva ploščad 5, 1000 Ljubljana

Project Partners: Ljubljana Fire Brigade, Fire Fighting Association of Slovenia, IGEA Ltd., Water Science Institute Ltd., the City of Ljubljana and external experts

Project Summary:

Development of a Comprehensive Disaster Response Incident Command Model for all Command Levels in the Field of Protection, Rescue and Relief in the Republic of Slovenia

Project Leads: Uroš Svete, PhD, Associate Professor & Jelena Juvan, PhD, Assistant Professor

Authors: Julij Jeraj, MSc; Marko Tomazin; Matej Krnc, MSc; Uroš Svete, PhD, Associate Professor; Primož Banovec, PhD, Assistant Professor; Matjaž Klarič, MSc; Marjan Malešič, PhD, Professor; Miha Šlebir, Research Assistant; Robert Kus, MSc; Valentin Bucik, PhD, Professor; Marko Polič, PhD, Professor; Brigita Vavpetič; Iztok Prezelj, PhD, Associate Professor; Damjan Barut; Jelena Juvan, PhD, Assistant Professor; Dušan Fajfar, MSc; Branko Sojer; Andrej Fink, Teaching Assistant

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The "**Development of a comprehensive disaster response incident command model for all command levels in the field of protection, rescue and relief in the Republic of Slovenia**" project is composed of four phases. The first two phases of the project comprised the analysis of the actual state; in the first phase, we analysed the existing protection, rescue and relief command model in the events of disaster in the Republic of Slovenia, while in the second phase, we compared foreign disaster response incident command models. In the third phase we prepared the baseline for the revision of the command model based on which we drafted a detailed proposal for the revision of the disaster response incident command model in the fourth phase.

Phase 1

In the first phase we initially prepared an **overview of theoretical and empirical knowledge** about the original US approach to incident command (*Incident Command System – ICS*). It turned out that those who use this system in practice recognise its numerous advantages while scientists seem to be much more reserved and sceptical. The available literature was used to identify some open issues for which no clear and unique answers are available and we found out that improvisation cannot replace quality preparations for incident command but can be an important alternative in a given situation.

The first phase continued with the analysis of the **multiple case study of disaster response in the Republic of Slovenia**, namely during the Karst fires in the years 2003, 2006 and 2013, the Železniki torrential flood in 2007, the storms in the Municipality of Kamnik in 2008, the Ljubljana flood in 2010 and the sleet disaster in 2014. The examination of the incident command in the selected disasters allowed us to make a synthesis of the findings that were more or less used directly in phase four for the development of the command model proposal.

The chronology of major **fires in the Karst region** clearly shows the need for updating the approach to the disaster response incident command in Slovenia for functional reasons. The fire-fighting organisation was able to objectively analyse the experience and recognise the advantages and deficiencies of the existing system and undertook the initiative to develop an intervention-command system (IPS or Intervencijsko-poveljniški sistem). This system was successfully integrated into the fire-fighting organisation. It is based on the US ICS, with the main differences being the IPS' sole focus on fire-fighting, its scope narrowed down to the organisational structure and not so much to other components of the ICS and the method of

response command - the ICS foresees the appointment of a single commander or a unified command which constantly performs this task during the disaster response, while the IPS foresees changes in the response command, namely based on the position of the officer in the hierarchical structure of the fire-fighting organisation.

It was found that there was a unique merger of the local (municipal) and the national command level during the **Železniki torrential flood** in 2007 - due to the work overload of the municipal Civil Protection commander and his staff and delayed activation of the regional Civil Protection commander and his staff - resulting in the formation of an *ad hoc* operating team which *de facto* operated under the leadership of the Civil Protection Commander of the Republic of Slovenia. The functional areas of the support service for the operational team mostly coincided with the functional areas according to the ICS concept. During the intervention, the fire-fighters have already introduced the IPS system which turned out to be efficient, in general.

During the **storms in the Municipality of Kamnik** in 2008, the command structure was quite similar to (but not the same as) the ICS structure and provided adequate vertical and horizontal flexibility for efficient command process. The management body's work method was also similar to the work method according to the ICS concept. It was carried out by the incident commander, the Deputy Commander of the Municipal Civil Protection Service and the mayor. The efficiency of the incident command is mainly attributed to the appropriate selection of candidates, appropriate transfer of know-how from the previous Commander of the Civil Protection Service and the municipal official in charge of protection and rescue to the new official and the Deputy Commander, and the extensive efforts of the municipality to set up an efficient system.

The process of protection, rescue and relief during the **floods in Slovenia in 2010** was commanded by the commanders of the Civil Protection Service at different levels - national, regional and local. Even though the internal structure of the Civil Protection Service staff did not formally reflect the ICS concept, in the case of the Municipality of Ljubljana, it was the command structure which in terms of functionality performed the tasks foreseen in the ICS concept. The internal organisation of the Civil Protection Service staff of the Municipality of Ljubljana, namely with individuals - staff members - allocated to the so-called services/areas (alignment of the rescue services, planning, logistics, administration and finance), turned out to be a positive solution; however, we found that the work would be even more efficient if appropriate IT support were available and if appropriate training were provided.

The consequences of the **sleet disaster in 2014** differ from the other cases presented particularly due to the extent of the disaster. In addition to the 2010 floods, the analysed case is a large-scale disaster, affecting a major part of the country, which changed the form from sleet to floods. The analysis has confirmed that in the case of such large-scale disasters, the local intervention of the Civil Protection Commander of the Republic of Slovenia, as was the case in Železniki, was not possible. The analysis was focused particularly on the two cases of response at the local (municipal) level, namely in Postojna and Logatec. Both cases have shown that the system of protection, rescue and relief in the area of command needed to be harmonised, with clearly defined roles and appropriately trained staff. Based on past experience, the Municipality of Logatec started setting up its own command system devised on the basis of the ICS concept.

Phase 2

During the preparation of the second phase of the project it was established that the analysed countries - **the United States of America, Sweden, Italy, Austria and Switzerland** - have a very different administrative and political organisation than Slovenia, also in the area of disaster response. Nevertheless, several findings of the analysis were used in phase four for the development of the updated command model.

The coordination mechanism, similar to the US ICS, is called *metodo Augustus* in Italy, *Bevölkerungsschutz* in Switzerland, *Katastrophenschutz/Katastrophenmanagement* in Austria and crisis response system in Sweden. It should be noted that political authorities at various levels (municipal, district, land/cantonal/regional and national) are competent and responsible for disaster response. The principle of subsidiarity can be found in most countries in the case of disaster response activation, while in some countries (the United States of America), the *top-down* and *bottom-up* approaches are combined. All analysed countries recognise that it is not possible to set up a completely uniform system due to the differences between the Agencies and the political entities at different levels; however, with appropriate training, process standardisation, standardised forms, documentation and ICT tools, harmonisation can be considerably approved. Systems are built as multi-level functioning units with the ability of quickly establishing a vertical structure of a horizontal coordination system. To this end, all countries have set up staff services (some, e.g. Switzerland, call them management bodies at the cantonal level) which have all the components of the ICS command model. It is true that many of those are flexible - particularly at low levels - in terms of staffing the said positions; nevertheless, the tendency towards unification is clear. Furthermore, countries pay great

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attention to the provision of logistic services of joint body operations. The response in all analysed countries is based on more organisational levels than those existing in Slovenia.

The comparison of foreign ICS models has also shown that similar functional/staff areas of work are foreseen in the event of major interventions. Thus, five functional areas are foreseen in the USA, six in Sweden and Styria in Austria, while Italy foresees nine such levels at the municipal level and fourteen support function at higher levels. We were unable to obtain the relevant data for Switzerland. It was established that the functional and/or staff areas do not directly coincide in individual countries, although they are quite similar in terms of contents. Additionally, the functional or staff functions are rather flexible, which means that they can be deactivated, merged or that new ones can be established *ad hoc* - depending on the requirements of the intervention.

Phase 3

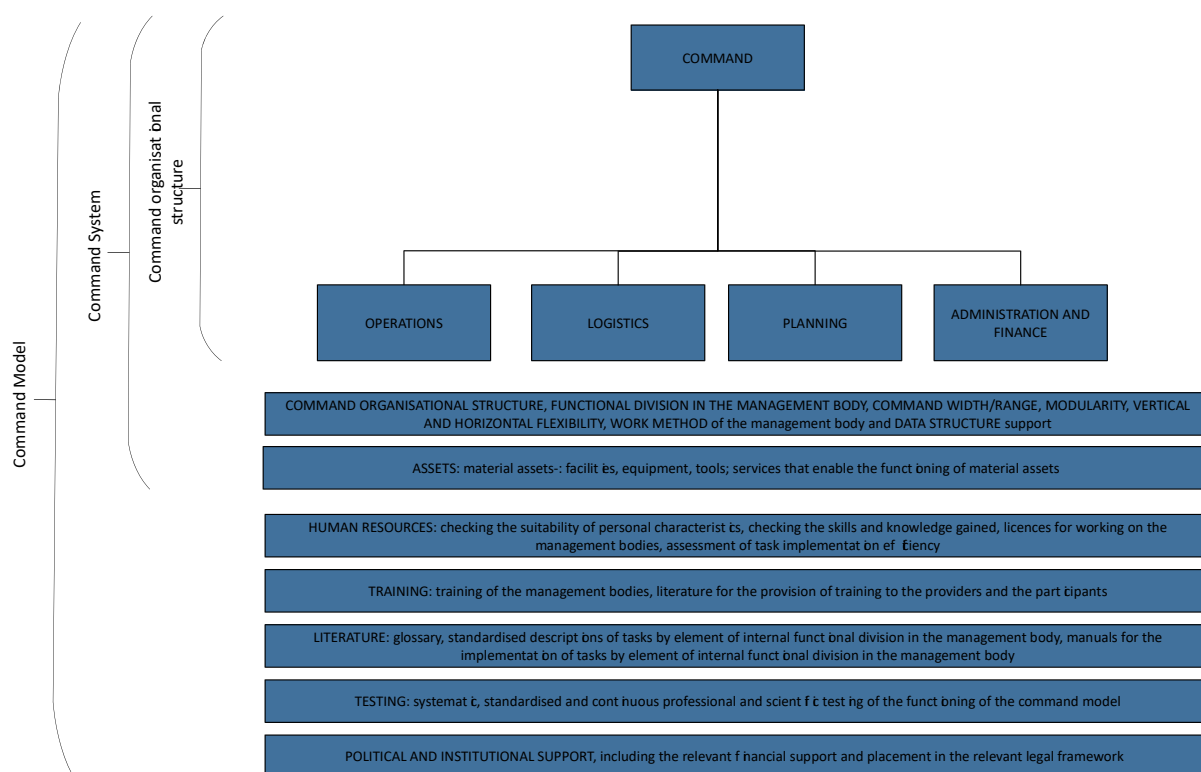
In the third phase of the project it was pointed out that the transfer of the ICS into the Slovenian environment was reasonable but **in adapted form**, with appropriate terminology and taking into account the national and local specifics.

Phase 4

In the fourth and last phase of the research project, we devised a **command model useful for the command approach in the events of disaster and in other cases** and outlined, to a certain degree, the baseline for individual elements of the proposed model. The incident command model shown in the diagram below was defined as the essential environment for the functioning of the system called **incident command system (SVOD - sistem vodenja odziva na dogodke)**. Within the SVOD, the organisational structure for the implementation of the incident command was broken down into five basic areas: **command, operations, logistics, planning, administration and finance (VOLNA)**. It was anticipated that the five basic areas are used depending on the specifics of the incident and response to it and that they can be further expanded or narrowed down, as required, and in accordance with the principle of appropriate span of control.

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Figure: Incident command model.



Jeraj, 2019

The incident command system (SVOD) was defined as a standardised approach to the incident command, including the establishment of a uniform organisational structure of command (VOLNA) and the establishment of a joint process of planning the response and its command, as well as a well-organised information flow and provided sources for incident command, which allows for a harmonised response by various organisations and their sources, and different levels of authority.

The conditions assessed as essential for the establishment and operation of the SVOD comprise several areas:

- human resources: planned selection of personnel, their training, maintenance of the appropriate level of qualification, their verification and licencing, career development and assessment of efficiency in the implementation of incident command and during exercises;
- training: systematic gradual education about command, command model and the SVOD, training for its use and practicing the use,

- literature: availability of glossaries; availability of standardised descriptions of tasks by elements of command organisation structure and including the elements of their further functional breakdown; availability of the manuals for the implementation of the command tasks, professional literature for the command and training;
- planned and continuous verification of the SVOD functioning: availability of the method for a systematic manner of professional and scientific evaluation of efficiency of the command model and system, and the mechanism for its planned and continuous application together with the presentation of findings to the expert, political and general public;
- political and institutional support of the model: adequate financial assets for the functioning of the command model; placement in the legal order and sufficient political and institutional support for the establishment, maintenance, development and functioning in the event of a disaster.

Material has been drafted for the area of human resources which will be used as a **tool for devising the assessment model for the selection of commanders and later a tool for the selection of heads**. We have prepared information about the psychological and similar tests (particularly for the lower-level heads) and for the assessment of superiors, subordinates and peers in different assessment situations (disaster response, during exercise, in normal time). The material also contains some aspects of operation of individuals and groups and the factors that affect their command efficiency, as well as the factors that are important for the command training and development of human resources. The issue of licensing - i.e. issuing and maintaining the licences in the area of command - has not been specifically covered.

For the area of training, we devised a draft **training programme for the use of the SVOD, training material and exercises, and a sample test to check the knowledge** about the incident command structure. The material has been tested in two events in which forty persons with rich experience in the field of protection, rescue and relief participated, coming from all organisational levels and all major organisations. The participants assessed the material as good. It should be emphasised that the material needs to be further developed and that the most challenging issue will be to maintain terminological and substantive consistency. After deciding on potential introduction of the model, SVOD and VOLNA into practice, one of the first tasks will be to adapt the material and train the trainers.

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We compiled a **glossary** with 105 entries and extensive material on the model, SVOD, VOLNA and management body work method. The material also contains standardised descriptions of tasks by elements of command organisation structure and including the elements of their further functional breakdown. **The material sets the terminological and substantive foundations for further development of literature about the management in the area of protection, rescue and relief.** Even though the material has a strong foundation in the US ICS, it is adapted to the Slovenian environment to the maximum possible extent - namely both statutory and those established by the incident command practice. The descriptions of tasks by individual elements of the organisational structure have been prepared at the basic level and will require significant further efforts to compile the task manuals.

The organisational structure for the implementation of the incident command VOLNA has been defined in the framework of the text on the SVOD and contains standardised descriptions of the tasks by elements of command organisation structure and including the elements of their further functional breakdown. The application of the SVOD, and particularly VOLNA, is explained in practical examples; it includes the explanation of the collage method that can be used for analysing the application of the organisational structure in the past events or for simulating the establishment of different possible organisational structures of the anticipated future events. The organisational structure of the command strongly depends on the unit formation. Therefore, the material covers these formations and provides the expert bases for creating the organisational elements that would combine lower formations into higher ones and for the organisational elements that would improve the supervision over the large-scale territorial events. In the part of material in which we discussed the formations, we also provided the proposals for defining the standards and norms for public employees in the area of protection, rescue and relief, with the primary focus on the municipal level.

Furthermore, we have developed and formulated the concept of **IT support** for the management and administration of protection, rescue and relief, based on which some of the contents were described in more detail. Thus, we among other defined the information flow, the information channels and drafted the **SVOD forms** and submitted proposals for their application. We also presented the overview of certain approaches and tools used abroad in the framework of the command according to the ICS concept.

The SVOD was formulated in line with the applicable doctrines and legal provisions, to the maximum possible extent. We believe we were quite successful in our efforts to there should

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be no significant limitations in terms of laws and doctrines that would prevent its practical implementation. Nevertheless, we proposed some changes aimed at accelerating the introduction of the SVOD and eliminating the few existing discrepancies. We would particularly welcome **updating of the Doctrine on Protection, Rescue and Relief** and to some extent also **supplementation of the Protection Against Natural and Other Disasters Act and some implementing regulations**.

Although this issue is of utter relevance, we did not establish whether there was sufficient political and institutional support for the introduction, establishment, maintenance, development and functioning of incident command, which also includes the issue of **appropriate level of financing**. It is estimated that in the event of inadequate political and institutional support, the proposed solutions could only be introduced in a limited scope and only in individual environments which have already expressed the need and undertook the activities to introduce the most advanced solutions.