

The innovative proposition

to attract investors and buyers

1. Name of innovation

DECISION SUPPORT SYSTEM ON EXPLOSION SAFETY

2. Intellectual Property

Select the appropriate position, put the mark «+». Write relevant information.

- Patented Innovation countries: Ukraine
- Filed for a patent countries: _____
- License agreement or Exclusive rights. Exclusive rights
- Other (specify) _____

3. Type of innovation

Select the icon by replacing from "-" to "+"

-	Product
-	Technology

+	Result of R&D
-	Other (discussed separately)

4. Areas of innovation

Select one or more applications innovation by replacing from "-" to "+" .

-	Automobiles, transport and logistics
+	Agriculture and food technology
-	Aerial and space technology
-	Biochemical technology
-	Building
+	Military Industrial and Safety
+	Energy and Energy Saving
-	IT-technology, ICT industry and services
-	Light industry
-	Marine industry and services
-	Environment
-	Nano- and Micro Technology
-	New materials
-	Medicine and Health
-	Creative industry
-	Tourism and cultural heritage
-	Other. (Please specify below the scope)

5. Novelty

What does innovation superior (in digits or qualitatively) already existing? (The answer should be clear and concise - three main arguments in support of the use of promising innovations in domestic and/or foreign markets)

Topicality of the project is determined by the lack of rather simple and reliable decision support systems (DSS) on explosion safety and explosion protection.

The overwhelming majority of modern practical research and development works on explosion safety almost completely don't take into account essential achievements of the modern mathematical theory for combustion and explosions. This theory developed extremely over the past decades. So it can be used for practical engineering calculations

The main idea of the project is to advance and to put into practice for decision support systems on explosion such important physicomathematical theories as:

- 1) theory of stability, structure and limits of detonation waves;
- 2) theory of internal instability and autoturbulization of flames;
- 3) theory of deflagration-to-detonation and deflagration-to-explosion transitions;
- 4) acoustic (linear and quasi-linear) theory for vibratory combustion;
- 5) theory of the point explosion and the limited volume explosion.

Theory of fuzzy sets and possibility theory are used to construct decision support systems on explosion safety in cases where mathematical analysis of the problem is too complicated. The usage of fuzzy logic makes it possible to formalize and systematize numerous physicochemical hypotheses, results of the approximate mathematical calculations for concrete cases and various experimental data.

Practical recommendations for the explosive objects design and the additional protection of the existing explosive objects can become the results of the project implementation. The nature of the explosive objects (enterprises, engines, transport systems) is of no fundamental importance. There are no analogues for this project in Ukraine. This project also has no analogues in the world in the context of usage of the modern mathematical theory for combustion and explosions for DSS on explosion safety and explosion protection. The project is unique from the point of view of the explosive objects universality. The aim of research is to create DSS on explosion safety and explosion protection based on new principles (i.e. to create "new generation" of DSS on explosion safety and explosion).

Material for investors: accounting frames, recommendations, algorithms, software product.

6. Stage of Innovation

What is innovation's stage of development? Select the icon by replacing from "-" to "+"

+	The concept, proof of concept
-	The prototype, which tested and available for demonstration
-	The technologies for small-scale production
-	The technology is ready for industrial application
-	Commercialized

7. The presentation innovations

Select one or more forms by replacing badge from «-» to «+»

-	The demonstration model
+	Multimedia presentation
-	Report

8. Information about the participants, which apply innovation

	<i>If innovation is filed away</i>
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