

Transfer of Ukrainian technologies of production of advanced materials of dual use to the EU. Barriers and Challenges

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PhD Research project : Transfer of Ukrainian technologies of production of advanced materials of dual use to the EU. Barriers and Challenges

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Premises

- Up to 90: **Ukraine** was a **leader** in development of new advanced materials with a high level of required properties;
- **USSR invested** in development of materials science technologies and training personnel;
- **Scientific schools** intensively developed this branch of science and took the **leading position** in the world scientific community;

- Main consumers of applied R&D results were and still are **army, aviation, space and shipbuilding** industries;
- After the USSR fallen apart, Ukraine could not “eat” and fund the amount of knowledge formed by scientific schools and institutes
- All this led the government to a **conversion program** announced in 1990
- Many defense technologies were **unclassified** and **modified** for civil applications.

Proliferation of “Sensitive” Technologies

- “Technology” is a specific complex of knowledge required for products “development,” “production” and/or final “use”
- **Intangible technology transfer** (ITT) is a transmission or release of a technology through intangible means
- There are two variations of ITT
 - Transfer of knowledge as technical assistance
 - instruction, personnel training or consulting
 - Transfer of technical and/or any other data via
 - Technical drafts, schemes & diagrams, e-mail, fax or Internet up and down loadings

Introduction to ITT

- ITT also implies seminars, conferences, e-mails exchange, publications, etc.
- Cybercrime (hacking of electronic resources - illegal obtaining of controlled information, databases)
- Industrial and scientific espionage

Introduction to ITT

- ITT grows due to:
 - Globalization of businesses and organizations
 - Telecommunications and Internet
 - Ease of international travel
- Presents significant challenges to export controls traditionally based on national boundaries
- Requires unique policies and practices for effective administration and enforcement

Export Control Challenges of ITT

- Increasingly integrated world
 - Economically/Politically/Socially
- Awareness
 - Which technology is controlled?
 - What are the requirements for authorization?
 - Who is seeking the controlled technology and Why?
- Legality
 - Appropriate export control legislation
 - Burden of proof in ITT
 - Enforcement
 - National Law vs. International Law

Critical ways to overcome new challenges at national level, Ukraine

- Personnel and infrastructure base. Creation of specialized research institutes and organizations to study the impact of new technologies on global security and development of WMD
- To increase the level of corporate export control and qualification of enterprise specialists on export control issues, which possess new promising and sensitive technologies
- To improve the mechanisms of export / import of controlled goods

This PhD effort will therefore:

- To classify technology transfer barriers: **technical, organizational, economic** and **system** barriers
- To evaluate specific, **progressive steps** required to achieve an effective cooperation between **supplier and recipient** of dual-use materials science technologies;
- To assess **measures** that would offer more transparency and openness in transfer of dual-se technologies and bring its end-use to greater predictability;

This PhD effort will therefore:

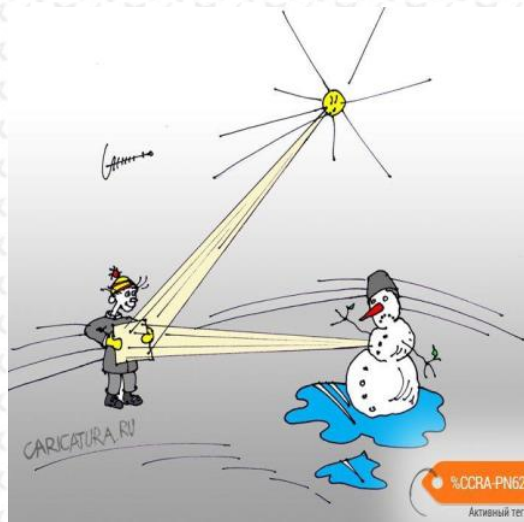
- To examine **measures** which could build-up more confidence and security between Ukraine and EU, while materials science technologies of dual-use are concerned
- To highlight and evaluate **key positions** for the methodology as to a technology **scientific escort** and adaptation to raw material of country recipient after the transfer

This PhD effort will therefore:

- to examine existing and future technology transfer control regulations and **the role** of Ukrainian and the EU legislation system
- Which countries developed or still develop the **legislative measures** in this area better?
- **Does this really work** and sound in practice, and to what extent?
- The roles of both **supplier (Ukraine) and recipient (EU)** and *visa versa* in unilateral, reciprocal measures would have to be carefully evaluated.

SUMMARY:

Export control system
should be hybrid, flexible
& ready to meet



PROBLEMS AND DIFFICULTIES APPEARING AT TRANSFER OF TECHNOLOGIES OF PRODUCTION OF DUAL-USE MATERIALS

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