

Global TRIZ Conference 2010 in Korea
(KOREATRIZCON 2010 11-13, March, 2010)



TRIZ AND PERFECTION OF BUSENESS PROCESSES

Komsomolsk-na-Amur State
Technical University
Russia
Prof. V.Berdonosov
E.Redkolis



The purpose of the report is :

**to show the opportunities of TRIZ use
for perfection of business processes**

The tasks of the report are:

- 1. To define widespread business processes models which it is possible to use TRIZ;**
- 2. To define directions of TRIZ application for each model;**
- 3. To cite the business processes perfection problems for each allocated direction as an examples;**
- 4. To offer the techniques of the problems decision;**
- 5. To solve the problems according to the formulated techniques.**

Involved business processes models



- **Functional model**

- **Business Process model (notation IDEF0)**

- **Balanced Scorecard (BSC) model**



Functional model

Directions of TRIZ application:

1. **Analysis and transformation of product model or process model** (analysis of: model components utility and functional bindings between them, forces of these functional bindings with use of the value analysis (VA) which can be based both on the structured analysis and simulation modelling of business processes) **by means of:**
 - use of "Trimming" procedure for model;
 - use of the Fishbone-Ishikawa diagram for model with the subsequent resolution of the allocated contradictions by principles for solving technical contradictions.
2. **Su-Field analysis** of model with the subsequent su-field transformations according to the standards.

The example of target setting:

it is necessary to increase the efficiency of orders firm without involving new employees.

Functional model



The technique of the stated problem decision:

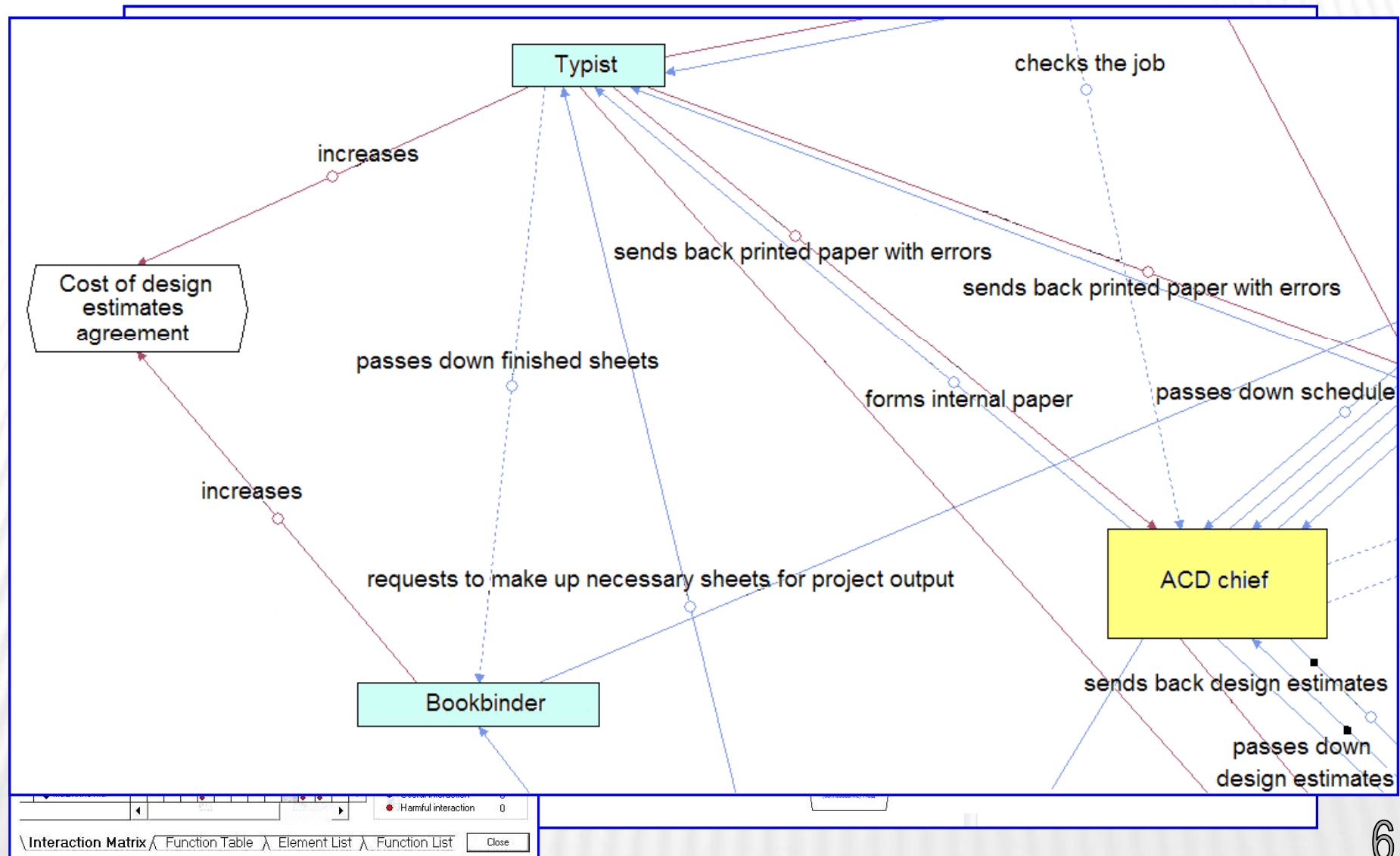
*on basis of use of "Trimming" procedure for model

1. To make component analysis of the system (activity of an enterprise or else particular business process);
2. To make structured analysis of the system;
3. To make value analysis of the system;
4. To execute "Trimming" procedure (to remove or change functions of "undesirable" system components).

The decision of the stated problem:



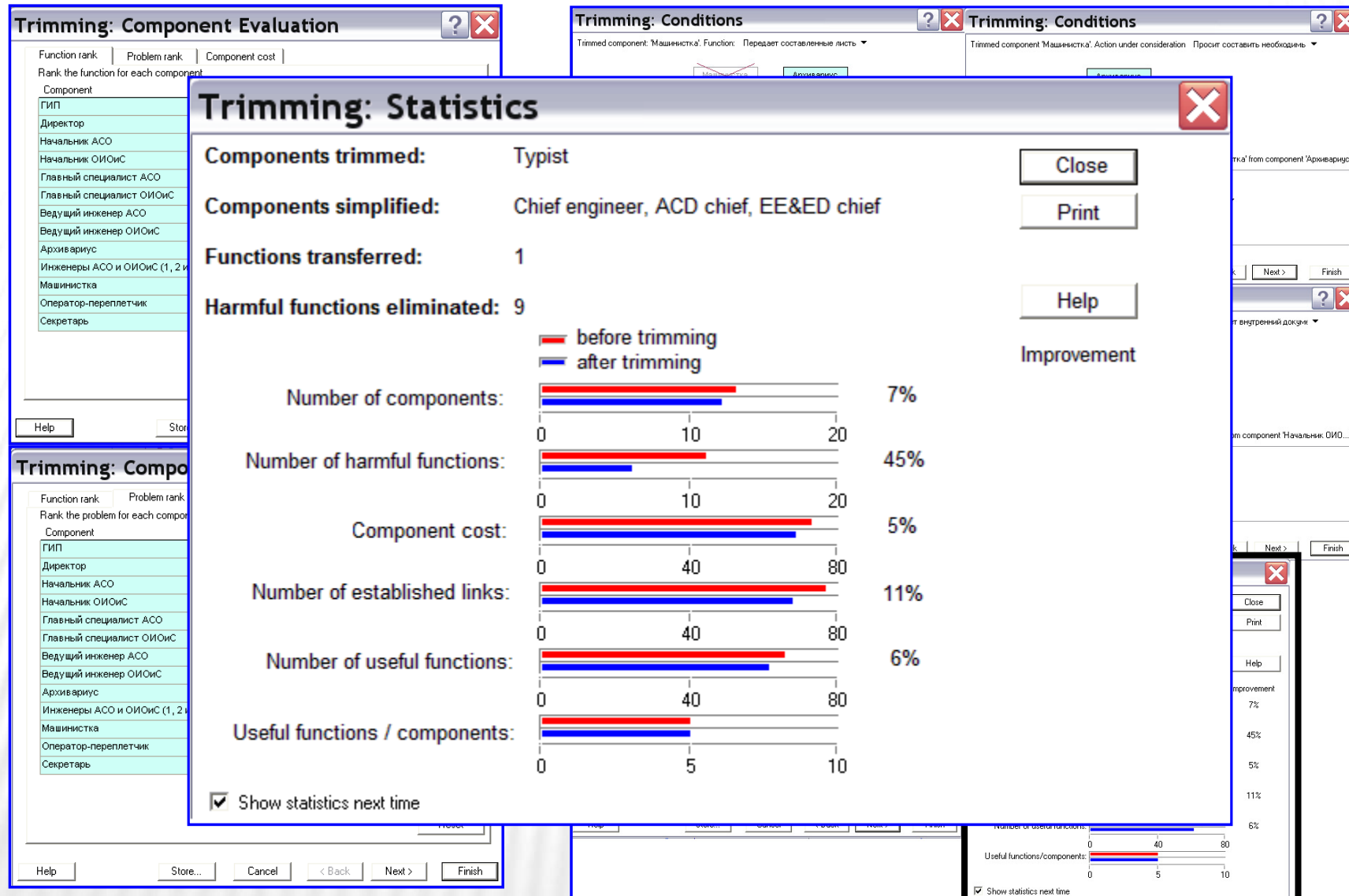
Model of the system



The decision of the stated problem:



Execution of "Trimming" procedure



Business Process model



Directions of TRIZ application:

1. Revelation and transformation of conceptual and (or) mathematical models of the most significant business processes for activity of an enterprise on basis of *a tree of objectives* and principles for solving technical contradictions;

2. Revelation and transformation of conceptual and (or) mathematical models of the most problem business processes for activity of an enterprise on basis of *a tree of problems* and principles for solving technical contradictions

The example of target setting:

one needs to define a species of necessary most of all for enterprise information system.

Business Process model



The technique of the stated problem decision:

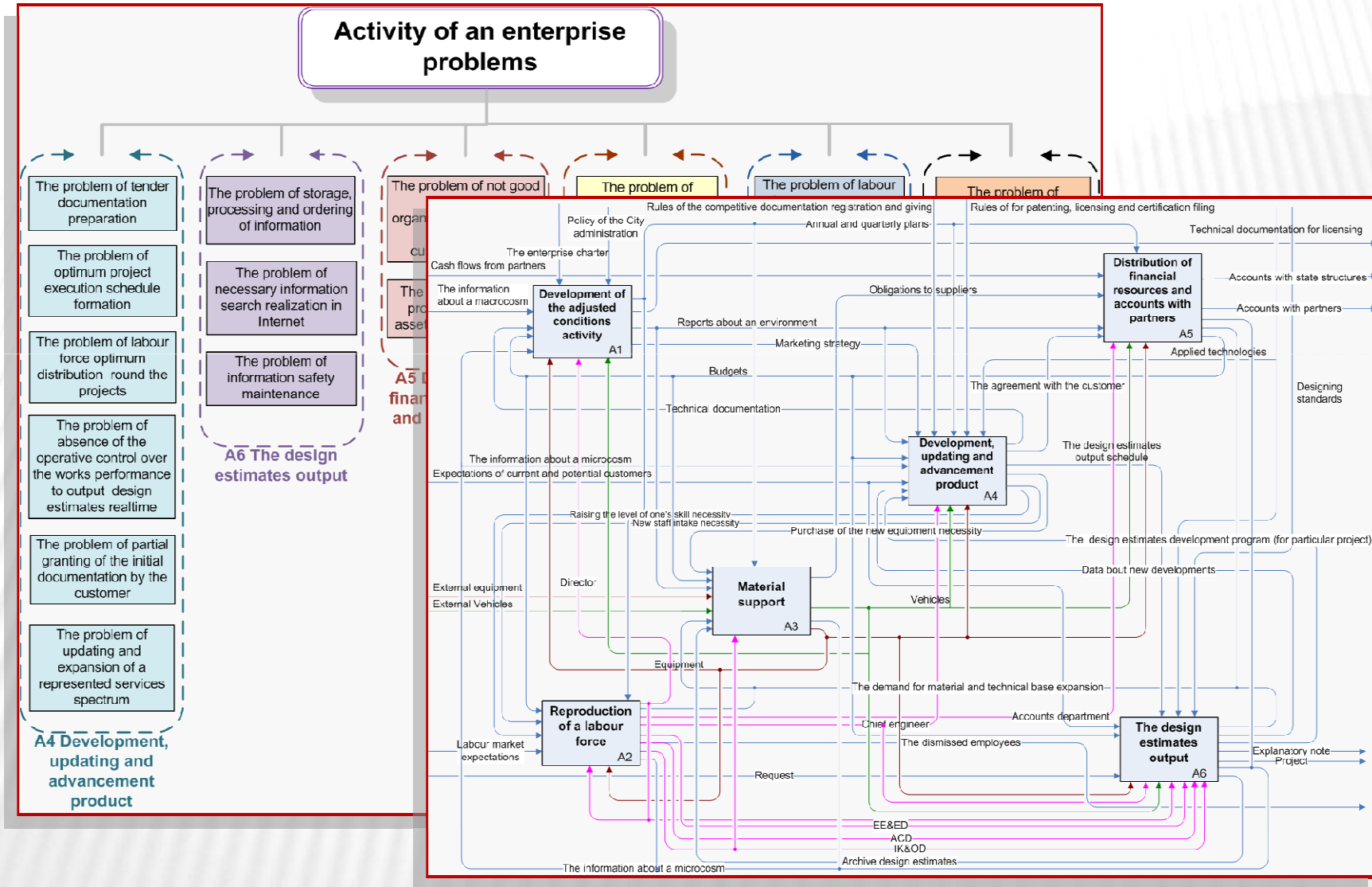
**on basis of a tree of problems formation*

1. To find the problems the enterprises faces with which in current activity;
2. To form a tree of problems;
3. To graph activity of an enterprise by way of interrelated business processes system;
4. To correlate found problems with business processes;
5. To define the most problem business processes (top-priority for making changes);
6. To define the contradictions which exist into the given business process. To define their rank;
7. To resolve the main contradiction which has the largest rank;
8. To correct first-formed interrelated business processes system taking into account resolving contradiction.

The decision of the stated problem:



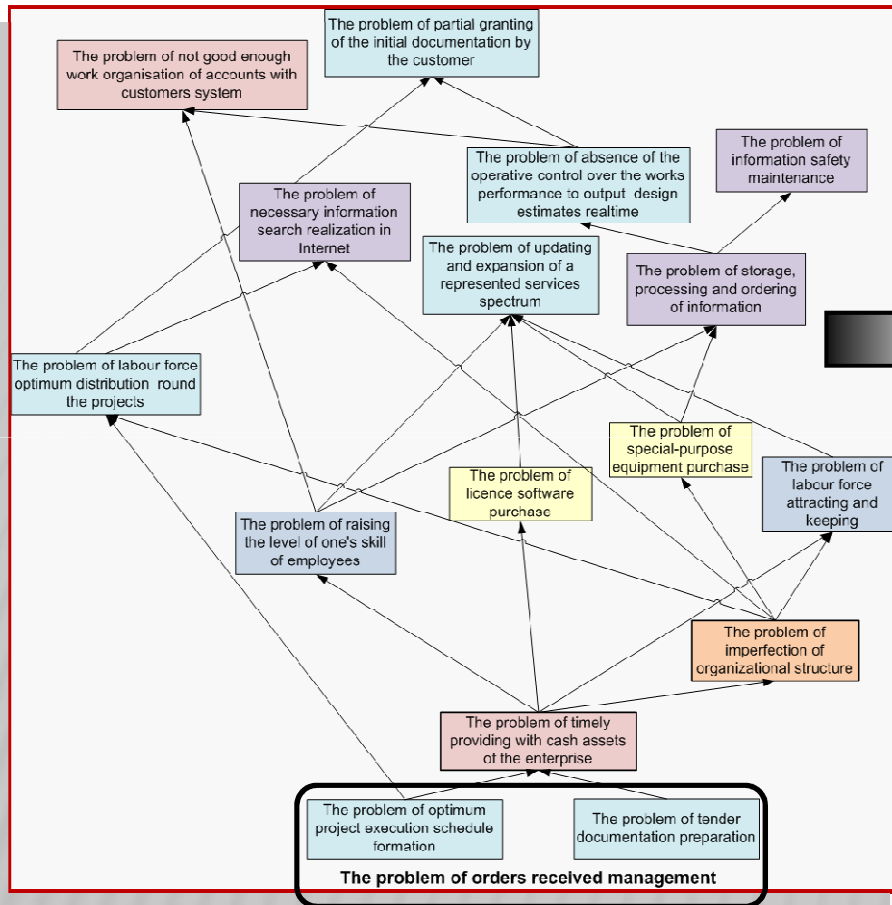
Interrelated business processes system



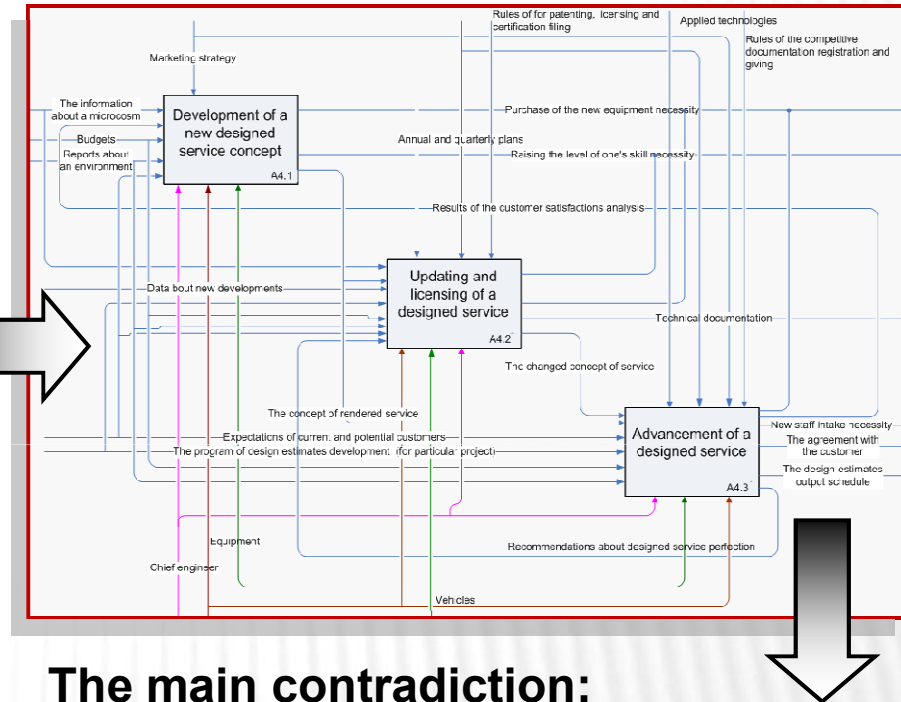
The decision of the stated problem:



Tree of problems



Contradictions



The main contradiction:

While increasing in the number of potential clients decision-making on order inclusion in orders received time increases inadmissibly

The principles: mechanics substitution; "intermediary".

The decision: implantation at the enterprise of informative-advising forming system of orders received



Balanced Scorecard model

Directions of TRIZ application:

The analysis and transformation of the relationships between the key strategic, tactical and operative business purpose by means of:

- use of "Trimming" procedure for model;
- use of the Fishbone-Ishikawa diagram for model with the subsequent resolution of the allocated contradictions by principles for solving technical contradictions.

The example of target setting:

it is necessary to increase attainability of the key business purpose taking into account resource constraints.



Balanced Scorecard model

The technique of the stated problem decision:

*on basis of use of the Fishbone-Ishikawa diagram

1. To define resources, strong aspect and weaknesses of the system;
2. To form BSC with the business purposes, KPI, relationships forces between the purposes;
3. To graph the Fishbone-Ishikawa diagram on basis of generated BSC:
 - to define undesirable effects and elimination facilities;
 - to formulate and resolve contradictions by principles.
4. To correct first-formed BSC taking into account resolving contradictions;
5. To form mathematical BSC model;
6. To execute BSC optimization with use value analysis or regression correlated analysis.



Conclusion

In this report:

- some examples of widespread business processes models which it is possible to use TRIZ are presented;
- the directions of TRIZ application for each model are defined;
- the business processes perfection problems for each allocated direction are cited as an examples;
- the techniques of the problems decision are formulated;
- the problems are solved according to the formulated techniques.



Thanks for your attention !

E-mail:
ktriz@knastu.ru