

Technical system

Function

Ideality

Ideal Desired Result (IDR)

$$K_{ид} = \frac{\sum \Phi_{\text{полезных}}}{\sum \text{расплат}}$$

Resources

Technical contradictions

Physical contradictions

- **Objective Laws of Technology evolution approach**
Every technical systems evolves in accordance with objective laws
- **Target as ideal result**
Systems develop in accordance with ideal way
- **Contradiction approach**
Evolution of technical systems goes by sharpening and resolving of contradictions
- **Consideration of a solvers psychological properties**
Every TRIZ methodology is realizing by action of specific persona. It is very important to take into account features of human brain first of all mental inertia

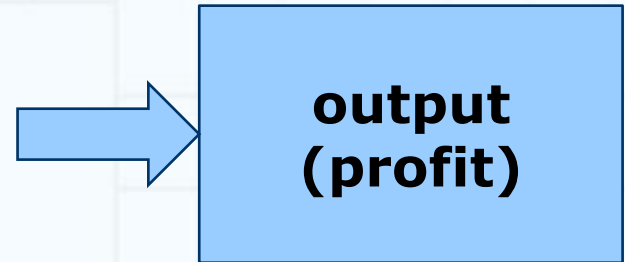
Ideal Technical System

The ideal target

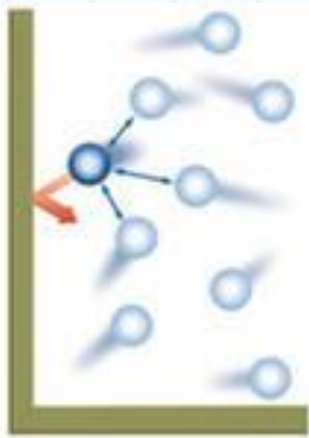
System description



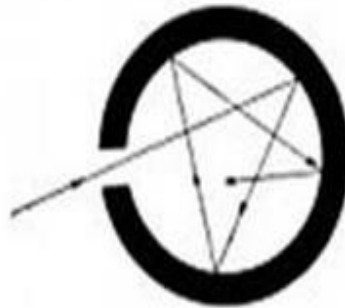
Desirable description of technical system



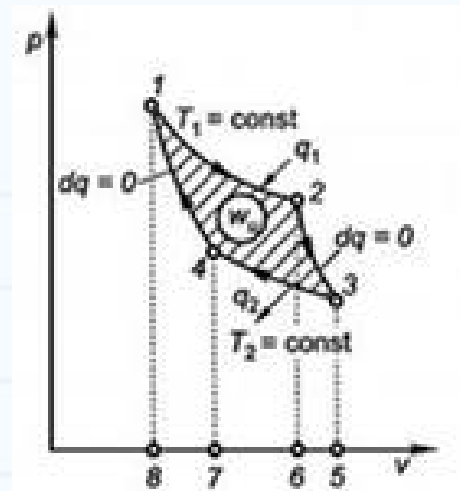
Ideal gas



Black body



Carnot' circle



Ideality:

System – is not

Function - is

imagine...



Result is
achieved
by itself

Paul Vermeulen South Africa Open cast-mine



Paul Vermeulen South Africa Dam



Paul Vermeulen South Africa Building



http://thecreativefinder.com/portfolio-image.php?username=andric&id=4541&filename=Andric_web041.jpg
Andric: Photography & Post Production





**Ideal result –
many functions without payment**

**The object fulfills additional functions and
their own function**

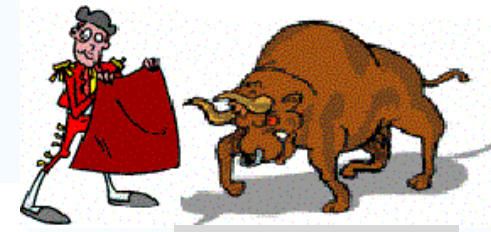
RESOURCES IN TECHNICAL SYSTEM

Task may be solved by using of different resources

Technique development in replace of inconvenient resources by convenient:

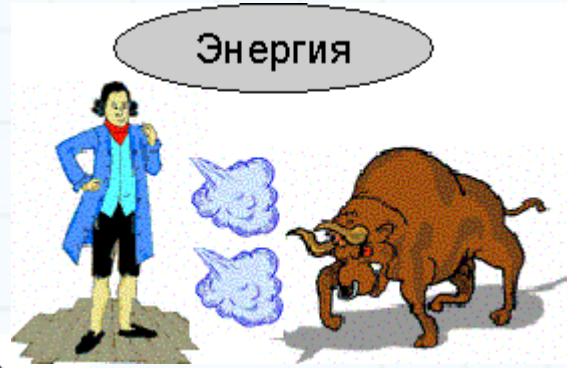
- **Information**
- **Energy**
- **Substance**
- **Space**
- **Time**

Информация



information

energy



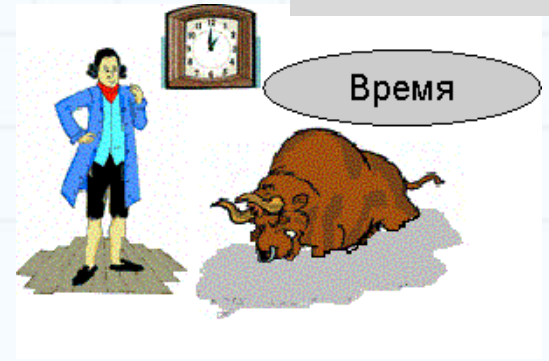
Энергия

substance

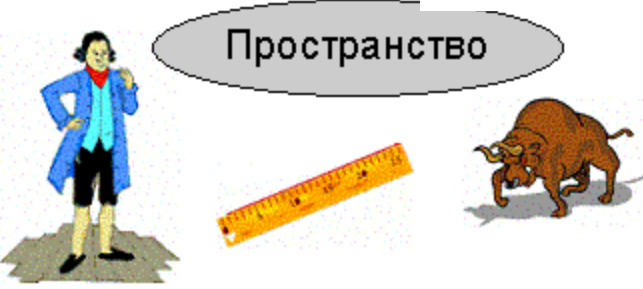


Материя

time



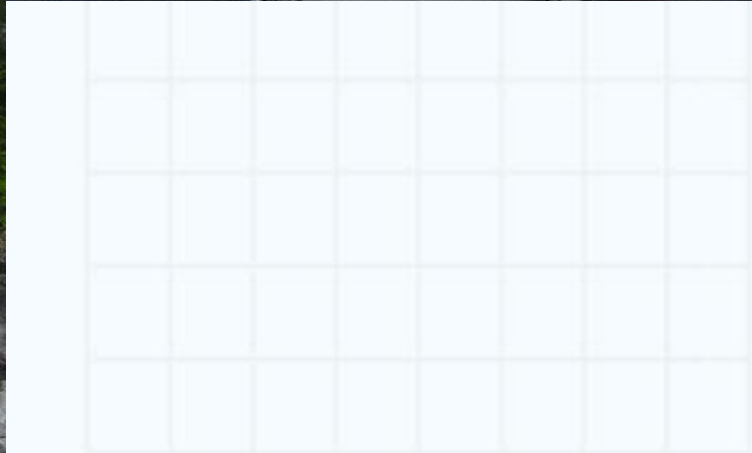
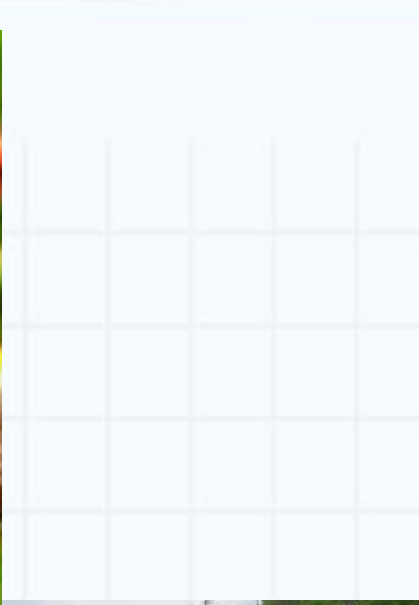
Время



Пространство

space

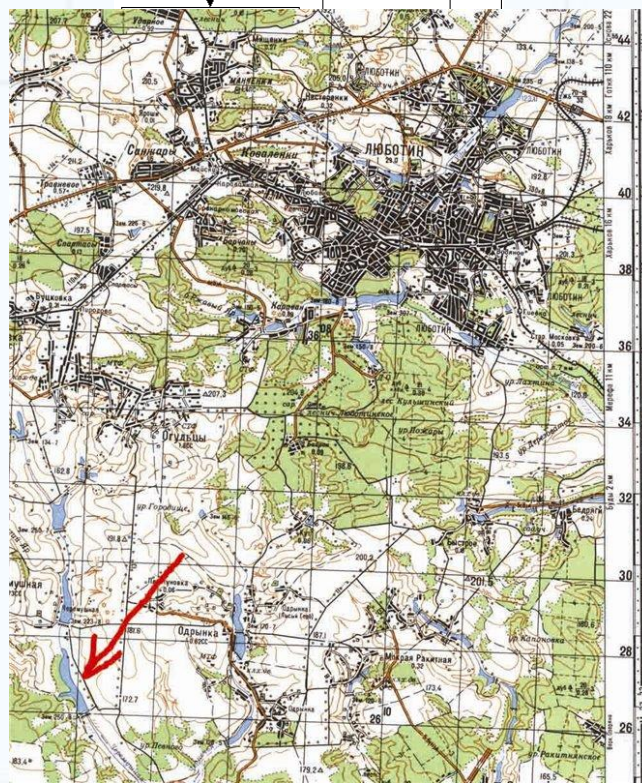
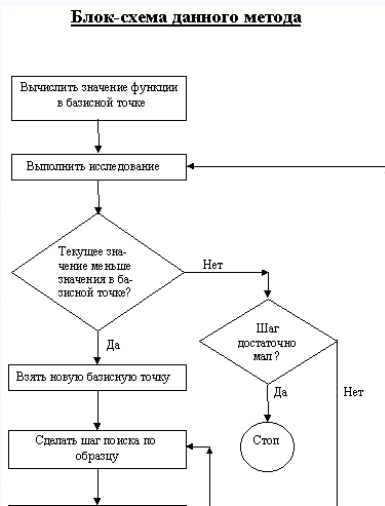
Streams of substances



Energy streams



Information streams



ASSIGNMENT

- 1. To choose the object and a system to operate object**
- 2. To determine the system function**
- 3. To demand the function is done by object itself or another system (cases 1 and 2)**
- 4. To determine conditions when action may be done completely (see 3)**