



**National Metallurgical Academy of Ukraine**

# A case of international commercialization of scientific potential

Sergey Belyaev

# Academia's Objective

Surround Itself with Correlating Industries



## RESEARCH

New Projects  
Financing  
IP Creating

# Academia's Objective

Surround Itself with Correlating Industries



## RESEARCH

New Projects  
Financing  
IP Creating

## INNOVATION

Evaluation  
Legal Protection  
Financing  
Commercialization

# Academia's Objective

## Surround Itself with Correlating Industries



### RESEARCH

New Projects  
Financing  
IP Creating

### INNOVATION

Evaluation  
Legal Protection  
Financing  
Commercialization

### PROFESSORS

Project Financing  
Publication  
Patent  
Evaluation Rank  
Personal Income

# Potential Limitations

**University**

**Finite Number of Industrial Partners:  
Limited Funding  
Static Spectrum in Research  
Narrow Spectrum in Ph.D., IP & Projects**

**Workload = Capacity at All Times  
Static Discipline Set in the Building  
Finite Campus Size**

**Industry**



"It took them longer than what we expected"

"They did not send the right specification"

"We did not receive what we agreed"

"It was more trouble than worth"

"They did not understand our problem"

"There was a lot of language barriers"

"They paid much less than agreed"

"They did not cooperate on data exchange"





**Expert Project  
MANAGEMENT**

## ADVISORY BOARD

**Dr. Da Hsuan Feng**  
Sr. Exec. V.P., National Cheng  
Kung University, Taiwan

**Dr. Russell A. Hulse**  
Nobel Prize Laureate in Physics

**Dr. Alain Bensoussan**  
Former Chairman  
European Space Agency

**Dr. Miroslav Vlcek**  
Vice-Rector, Int. Relations,  
Czech Technical Univ., Prague

**Dr. Andrei Zabrodskii**  
Director, IOFFE  
Physico-Technical Institute  
St. Petersburg, Russia

**Dr. Laszlo Kapolyi**  
Former Secretary of Industries,  
Republic of Hungary

**Dr. Hasan Pirkul**  
Dean, School of Mgmt., UTD



### Main activities

- Scientific support of projects
- Expert project management
- Establishing contacts with main industry companies in USA
- Technical and legal documentation and commercial assessment of the Intellectual Property;
- Global prior art and prior publication search results; Documentation related to US patent filing status (Provisional, Utility, and/or PCT applications) and the filing status in any other countries;
- Executed Agreements between TxIS, the inventor(s) and owner(s) that detail TxIS' exclusive right to represent and market that IP for sale or licensure.

# Biggest clients of TxIS



the world's largest offshore drilling contractors



global technology leader in diversified power management solutions that make electrical, hydraulic and mechanical power operate more efficiently, effectively, safely and sustainably



multinational oil and gas well management company



world leading supplier of pumps, valves, seals, automation



industry leader of products, services and expertise for managing drilling, completion and production operations.

*TxIS respects the confidentiality of all of our clients.*

*The displayed client logos and names are used with permission and reflect a small census of TxIS' overall client base.*

# Global Research Alliance (GRA)

15,000 Professors

60 Universities

200 Faculties



# Database



# Database Qualification Tree

FormListAllDeptQualifByCountry

8 of 28 Search by Keyword: Radio Go  Selected Country Only Czech Republ Show All Print

Qualif_lev0	Qualif_lev1	Qualif_lev2	Qualif_lev3	Qualif_lev4
PHYSICS	Radiography	Neutron / Gamma / X-ray / Dyna...		
SIGNAL PROCESSING TECHN...	Digital SP Theory, Algorithms and...	Radio modems		
TELECOM / WIRELESS	Radio Frequency (RF) and Micro...	Application of DSP and FPGA tec...		
TELECOM / WIRELESS	Radio Frequency (RF) and Micro...	Infrared and Barcode		
TELECOM / WIRELESS	Radio Frequency (RF) and Micro...	Measurement in radiocommunicati...		
TELECOM / WIRELESS	Radio Frequency (RF) and Micro...	Microwave communications		
TELECOM / WIRELESS	Radio Frequency (RF) and Micro...	Microwave measurement techniq...		
TELECOM / WIRELESS	Radio Frequency (RF) and Micro...	Mobile Radio Propagation Modeling		
TELECOM / WIRELESS	Radio Frequency (RF) and Micro...	Radiocommunications		
TELECOM / WIRELESS	Radio Frequency (RF) and Micro...	Switching-matrices		
TELECOM / WIRELESS	Radio Frequency (RF) and Micro...	Synthesis of low noise microwave...		
TELECOM / WIRELESS	Radio Frequency (RF) and Micro...	Monolithic microwave integrated ...	Analysis	
TELECOM / WIRELESS	Radio Frequency (RF) and Micro...	Methods of synthesis and comput...	Couplers	
TELECOM / WIRELESS	Radio Frequency (RF) and Micro...	Monolithic microwave integrated ...	Design	
TELECOM / WIRELESS	Radio Frequency (RF) and Micro...	Radiomonitoring methods and sys...	Development of mobile radiomonitor...	
TELECOM / WIRELESS	Radio Frequency (RF) and Micro...	Digital modulation	Digital modulation broadcasting in	

# Professor's Data

The screenshot shows a Windows Explorer window with the following details:

- Title Bar:** \\192.168.0.4\cv\Poland\Leszek Dobrzanski 2082\Publications 2004 to 2007
- Address Bar:** \\192.168.0.4\cv\Poland\Leszek Dobrzanski 2082\Publications 2004 to 2007
- Left Panel:**
  - File and Folder Tasks:** Make a new folder, Publish this folder to the Web.
  - Other Places:** Leszek Dobrzanski 2082, My Documents, TXIS4, My Network Places.
  - Details:** (collapsed)
- Main Content Area:** A table listing files with columns for Name, Size, Type, and Date Modified.

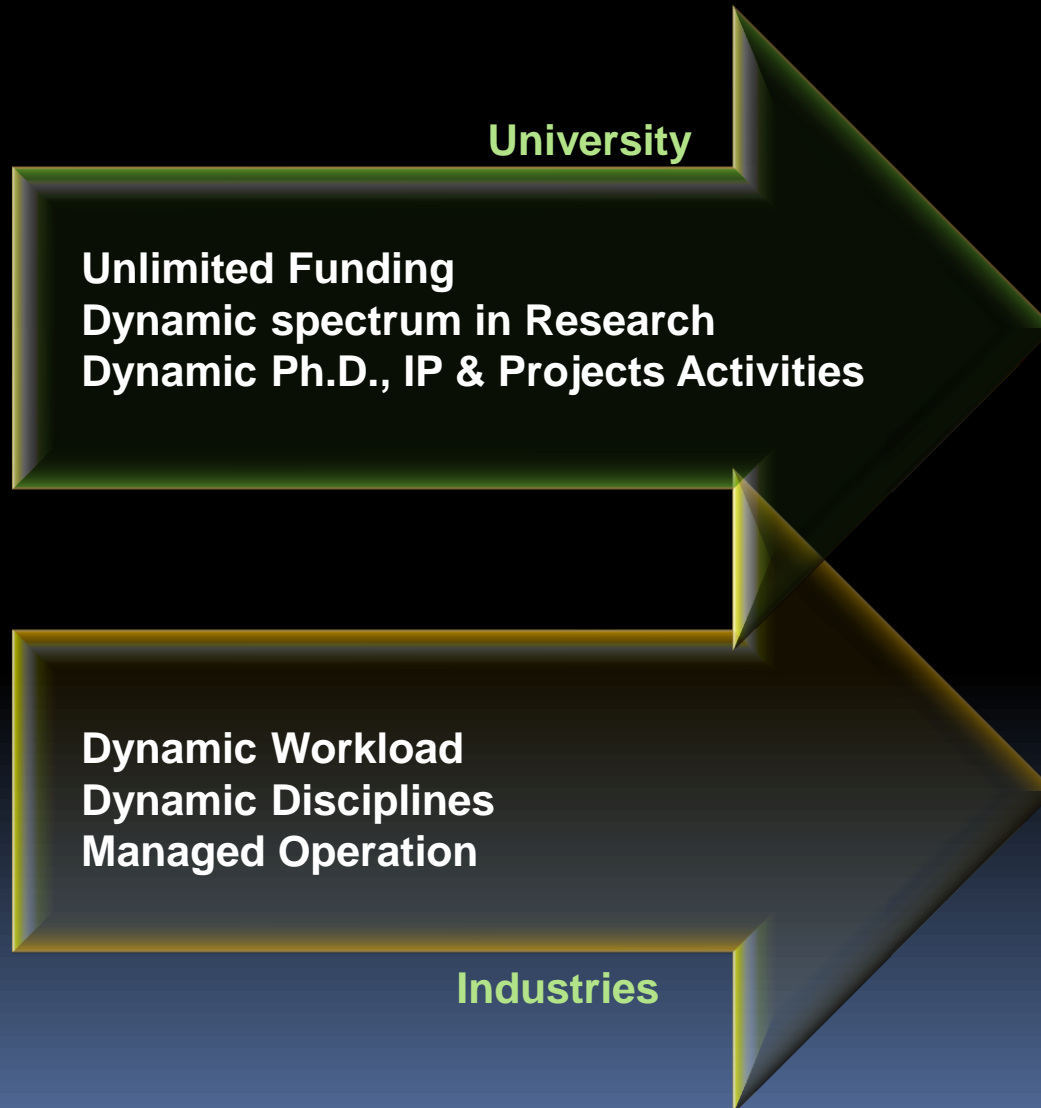
Name	Size	Type	Date Modified
A study of worn wear plates of fan blades of steel mill fumes suction sy...	43 KB	HTML ...	3/24/2007 1:41 PM
Abrasion resistance of GMA metal cored wires surfaced deposits.htm	66 KB	HTML ...	3/24/2007 1:40 PM
Alloying the X40CrMoV5-1 steel surface layer with tungsten carbide by ...	57 KB	HTML ...	3/24/2007 1:39 PM
Application of genetic methods in materials' design.htm	50 KB	HTML ...	3/24/2007 1:42 PM
Application of high power diode laser (HPDL) for alloying of X40CrMoV5...	65 KB	HTML ...	3/24/2007 1:49 PM
Application of neural networks for designing the chemical composition ...	75 KB	HTML ...	3/24/2007 1:40 PM
Application of neural networks for prediction of critical values of temper...	58 KB	HTML ...	3/24/2007 1:51 PM
Application of neural networks for the prediction of continuous cooling...	64 KB	HTML ...	3/24/2007 1:51 PM
Application of neural networks to forecasting the CCT diagrams.htm	60 KB	HTML ...	3/24/2007 1:45 PM
Characterisation of the gradient coatings TiN-(Ti,Al,Si) N-TiN type depo...	81 KB	HTML ...	3/24/2007 1:37 PM
Comparison of mechanical properties of the 32CrMoV12-2B hot work t...	58 KB	HTML ...	3/24/2007 1:36 PM
Comparison of structure and properties of the HS12-1-5-5 type high-s...	79 KB	HTML ...	3/24/2007 1:41 PM
Comparison of the structure and properties of the PVD and CVD coati...	72 KB	HTML ...	3/24/2007 1:41 PM
Comparison of the structures of the hot-work tool steels laser modified...	73 KB	HTML ...	3/24/2007 1:39 PM
Computer aided classification of flaws occurred during casting of alumin...	60 KB	HTML ...	3/24/2007 1:39 PM
Computer aided method for evaluation of failure class of materials work...	79 KB	HTML ...	3/24/2007 1:46 PM
Corrosion resistance of multilayer coatings deposited by PVD techniqu...	95 KB	HTML ...	3/24/2007 1:41 PM
Corrosion resistance of the polymer matrix hard magnetic composite ...	90 KB	HTML ...	3/24/2007 1:41 PM
Cutting properties of the Al2O3 + SiC(w) based tool ceramic reinforced...	93 KB	HTML ...	3/24/2007 1:39 PM
Development of surface layers alloyed by HPDL laser on hot-work tool ...	56 KB	HTML ...	3/24/2007 1:38 PM
Diffusion across PVD coated cermet tool-workpiece interface.htm	69 KB	HTML ...	3/24/2007 1:43 PM
Effect of depositing the hard surface coatings on properties of the sele...	101 KB	HTML ...	3/24/2007 1:43 PM
Effect of diode laser surface alloying of hot-work tool steel.htm	75 KB	HTML ...	3/24/2007 1:37 PM
Effect of thermal treatment on structure of newly developed 47CrMo...	62 KB	HTML ...	3/24/2007 1:46 PM
Employment of the finite element method for determining stresses in c...	77 KB	HTML ...	3/24/2007 1:42 PM
Erosion resistance and tribological properties of coatings deposited by r...	69 KB	HTML ...	3/24/2007 1:48 PM
Fabrication methods and heat treatment conditions effect on tribologic...	69 KB	HTML ...	3/24/2007 1:47 PM
Finite element method application for modeling of PVD coatings proper...	59 KB	HTML ...	3/24/2007 1:36 PM
Fractal nature of surface topography and physical properties of the co...	93 KB	HTML ...	3/24/2007 1:43 PM
Improvement of wear resistance of hot work steels by PVD coatings d...	68 KB	HTML ...	3/24/2007 1:49 PM
Laser modification of hot-work tool steels gradient layers.htm	74 KB	HTML ...	3/24/2007 1:38 PM
Magnetic properties and structure of nanocomposites of powder Fe...h...	78 KB	HTML ...	3/24/2007 1:48 PM
Magnetic properties of high-energy milled Fe78Si 13B9 nanocrystalline ...	75 KB	HTML ...	3/24/2007 1:47 PM
Mechanically milled AA6061-(Ti3Al)P MMC reinforced with intermetallics....	65 KB	HTML ...	3/24/2007 1:48 PM

# Field Offices / 2011



# No Limiting Factor

## Universities & Clients



# Research Programs Division

Works on Clients' Problems



# Project Development

Receiving Research Program  
from Client

# Project Development

Database Search  
&  
Research Group Development

Receiving Research Program  
from Client

# Project Development

Interfacing Research Group  
and  
Client's Scientists

Database Search  
&  
Research Group Development

Receiving Research Program  
from Client

# Project Development

Interfacing Research Group  
and  
Client's Scientists

Database Search  
&  
Research Group Development

Receiving Research Program  
from Client

Project Evaluation

# Project Development



# Project Development

Interfacing Research Group  
and  
Client's Scientists

Database Search  
&  
Research Group Development

Receiving Research Program  
from Client

Complete the Project

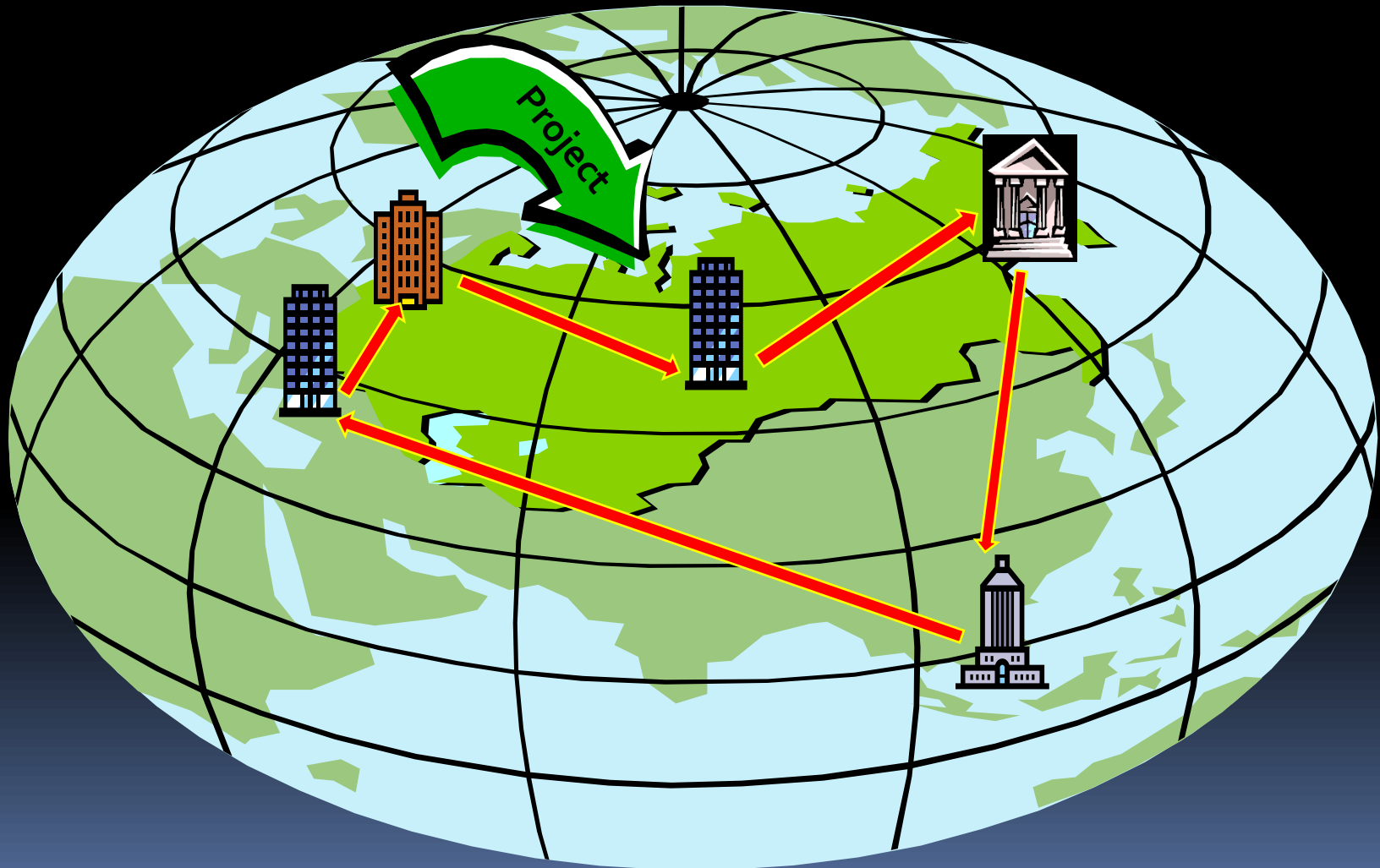
Contract for  
**Beta  
Development**

Contract for  
**Preparation Study  
or  
Feasibility Study  
Or  
Solution Study**

Project Evaluation

# TxIS's Model

## Multi-Site Project Management



# IP Tech Transfer

# IP Tech-Transfer Division

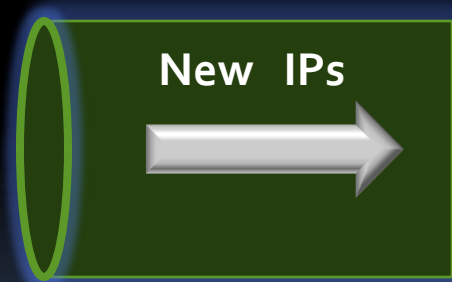
Commercializes Professors' Inventions



# IP Architecture

ACADEMY

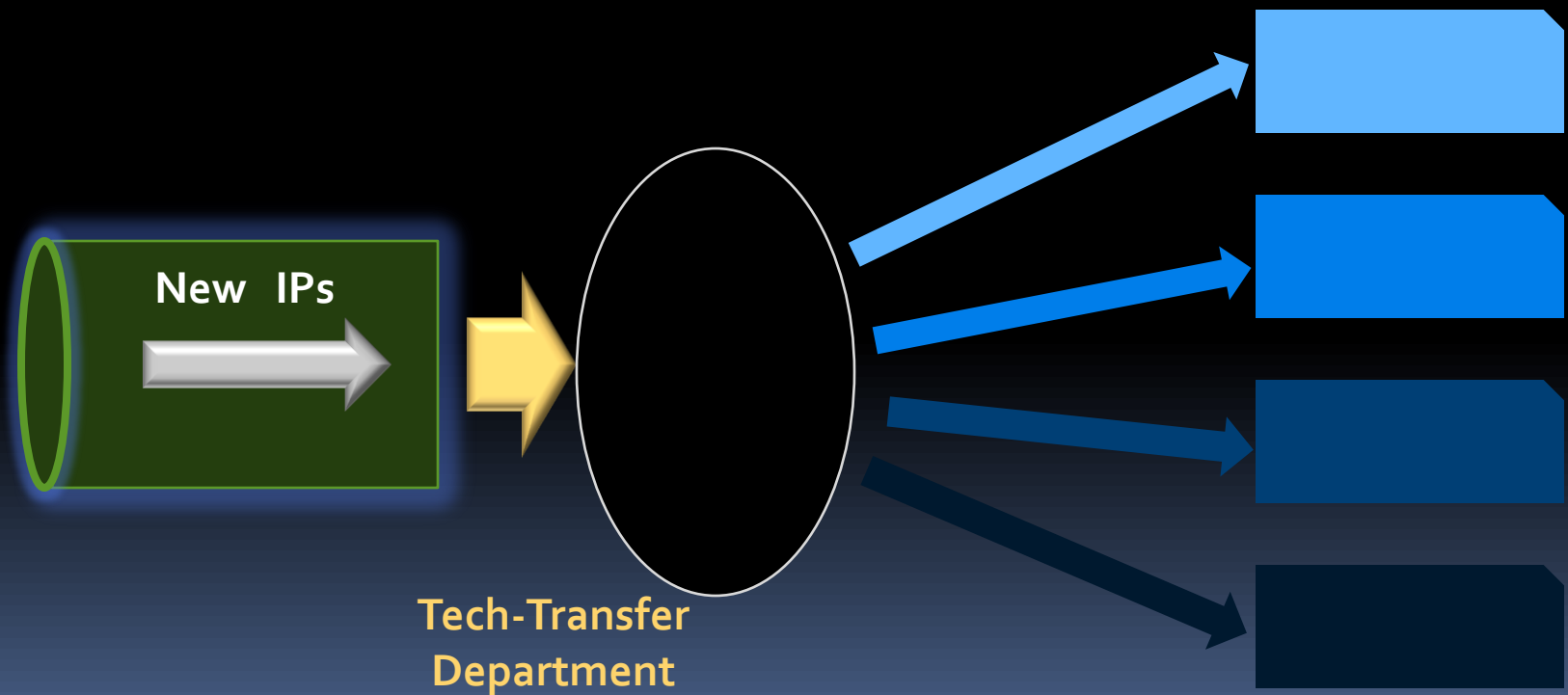
INDUSTRY



# IP / A Decoupled Architecture

ACADEMY

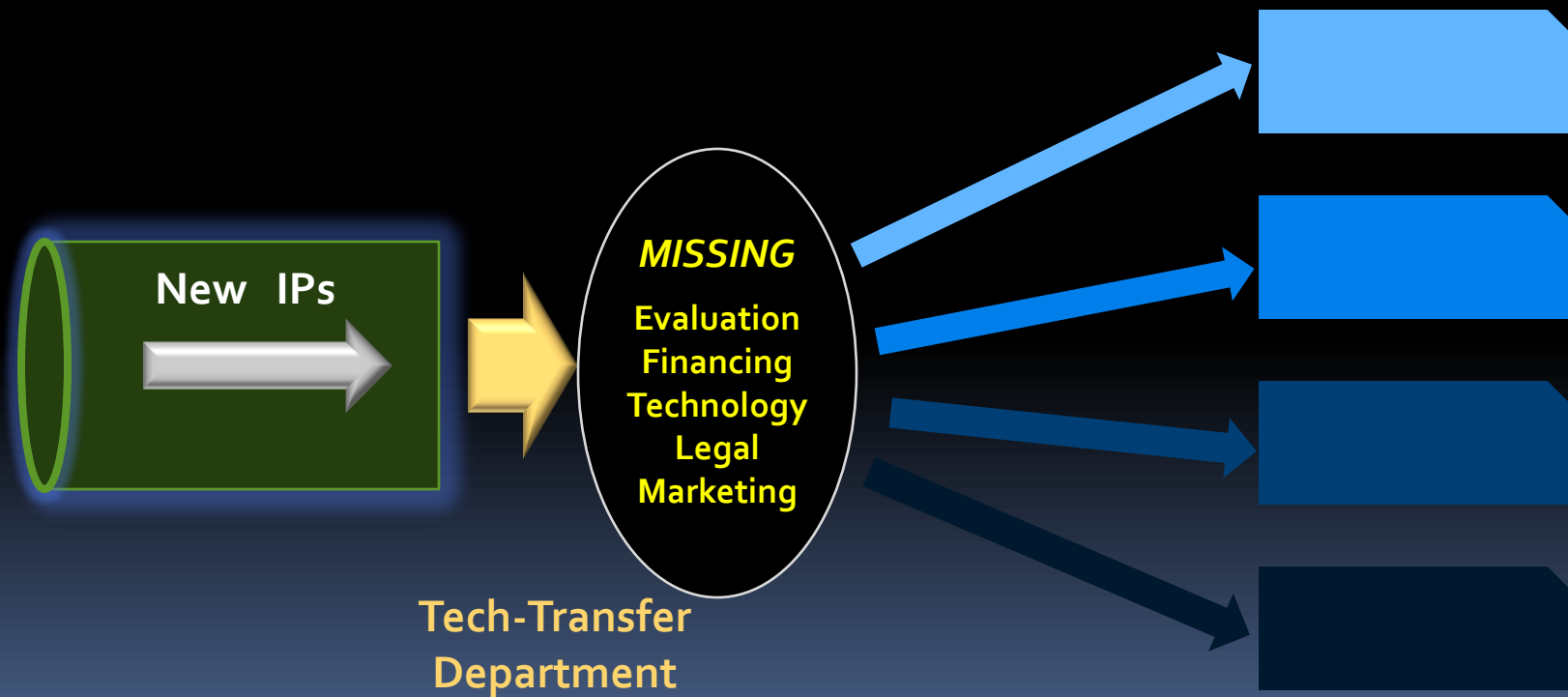
INDUSTRY



# IP / A Decoupled Architecture

ACADEMY

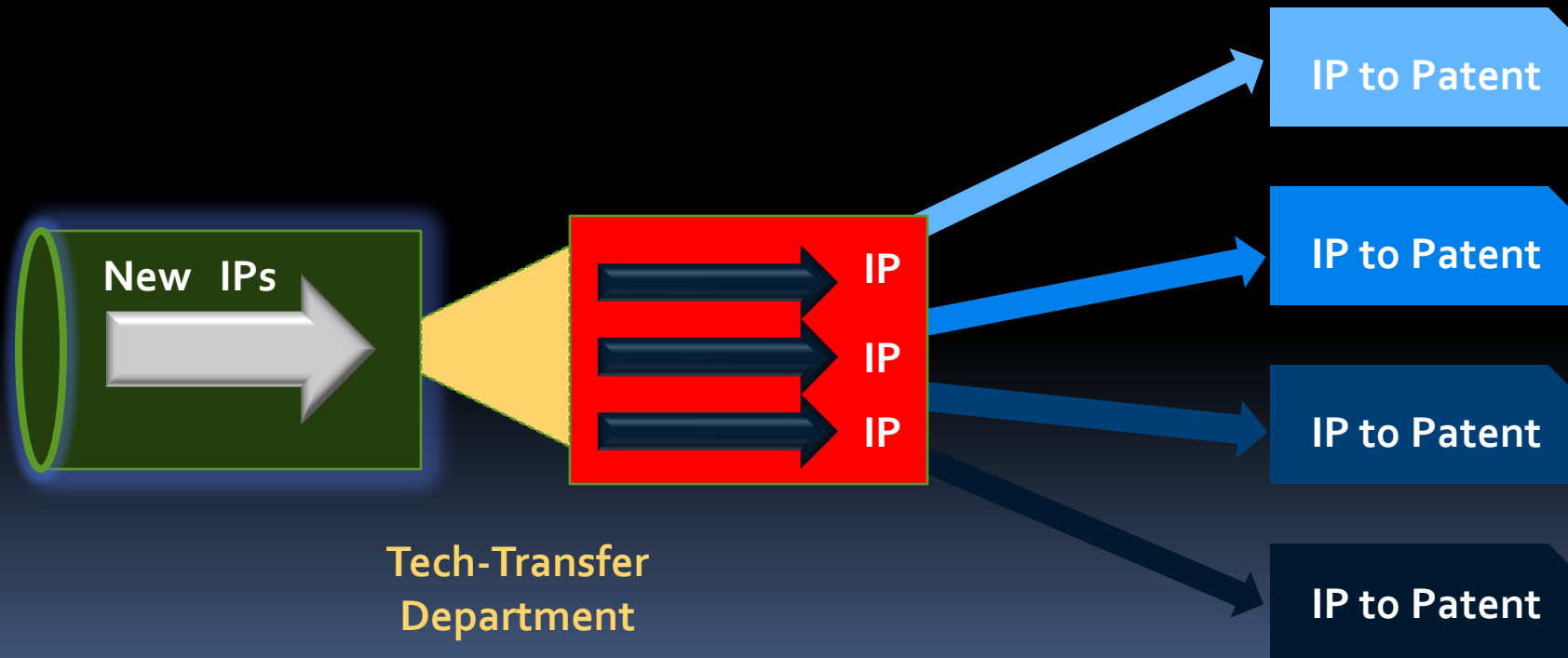
INDUSTRY



# TxIS's Role

ACADEMY

INDUSTRY



# What Do You Receive?



**Thank You**

**Q & A**

**A & Q**

# Definitions

**IP**

**Laboratory Level  
Intellectual Interest**

**Non-Published**

**Patent has not been  
filed**

**Published**

**Patent**

**Legally Protected**

**Commercial Device**