



DANISH PATENT AND TRADEMARK OFFICE

# Commercializing Scientific Research and development

## Successful Institutional Structures

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### Session I – II - III

- I: Commercializing Scientific Research and development  
Successful Institutional Structures
- II: Commercializing Scientific Research and development  
Legislation, Contracts, Royalty rates
- III: Training systems for Commercializing scientific research and  
developments (CSR D). IP awareness Supporting the technology  
transfer



## DANISH PATENT AND TRADEMARK OFFICE

# Agenda

- Denmark and The Danish Patent and Trademark Office
- Legislation
- Results and statistics
- Two Examples

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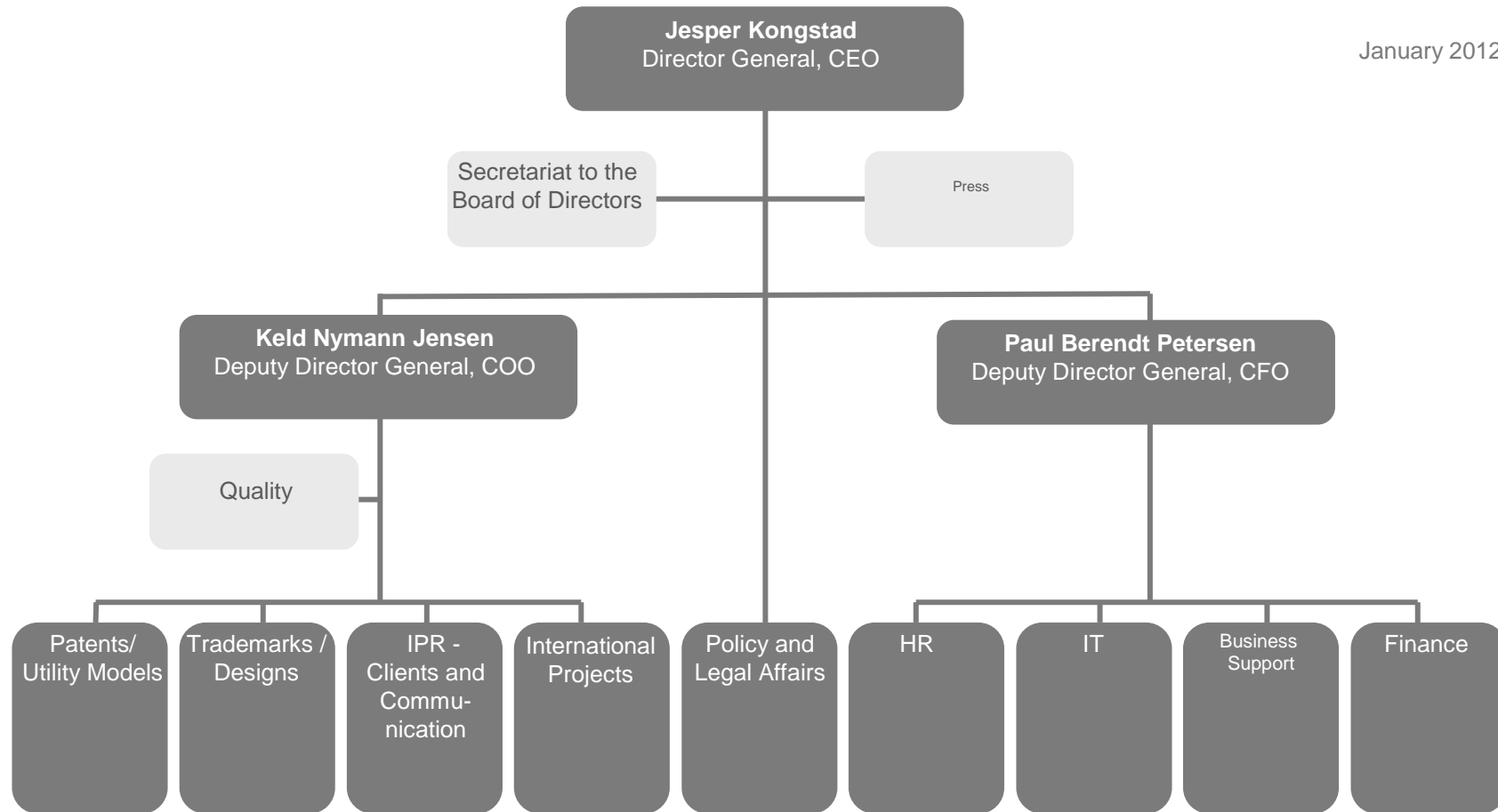
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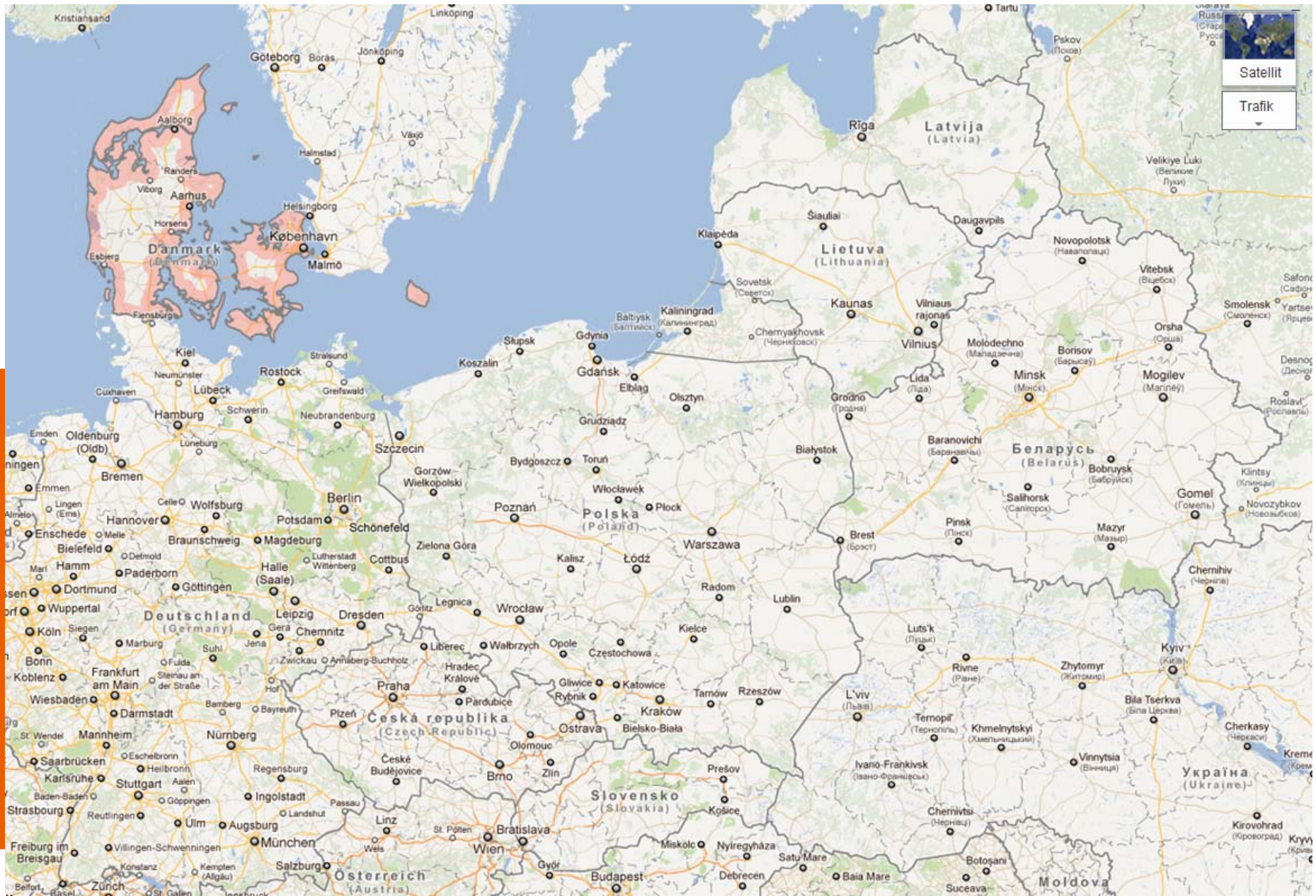
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January 2012

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## Act on Inventions at Public Research Institutions

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- Before January 1, 2000
  - Act on Employee's Inventions, (did not cover scientific and teaching personnel at the universities)
- After January 1, 2000 (Law no. 347 of June 2nd 1999)
  - Act on Inventions at Public Research Institutions, (apply for all personnel employed at the Universities, hospitals and Governmental Research Institutions)



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## Act on Inventions at Public Research Institutions

Purpose of the Act (§1):

- To ensure that research results produced by means of public funds shall be utilized for the Danish society through commercial exploitation.





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## Notification and evaluation (§§10-11)

Notification:

The employee shall notify the institution of inventions made as part of his/her work without undue delay

2-months evaluation period:

Within 2- months of the notification, the institution shall evaluate its possibility of commercial exploitation.

The employee is not entitled to publish the invention during this 2-months period.



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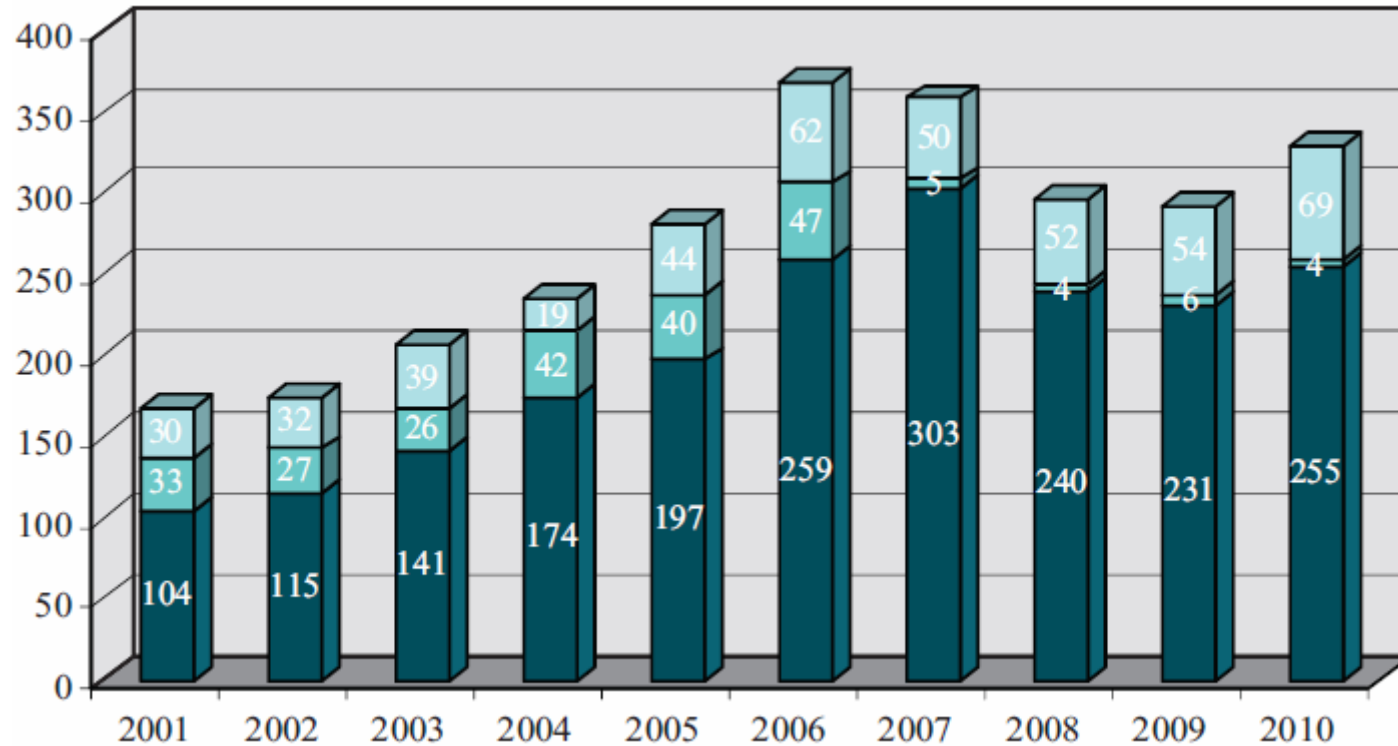
# Scope of the university

- According to the Danish Act on Universities, the universities are obligated to teach, carry on research, and provide the research results to the Danish community
- From Act on Invention at Public Research Institutions an obligation is to promote commercial exploitation of the invention made at the universities
- EU-rules regulates and restricts public funding and unfair competition



## DANISH PATENT AND TRADEMARK OFFICE

### Invention disclosures received, 2001 - 2010



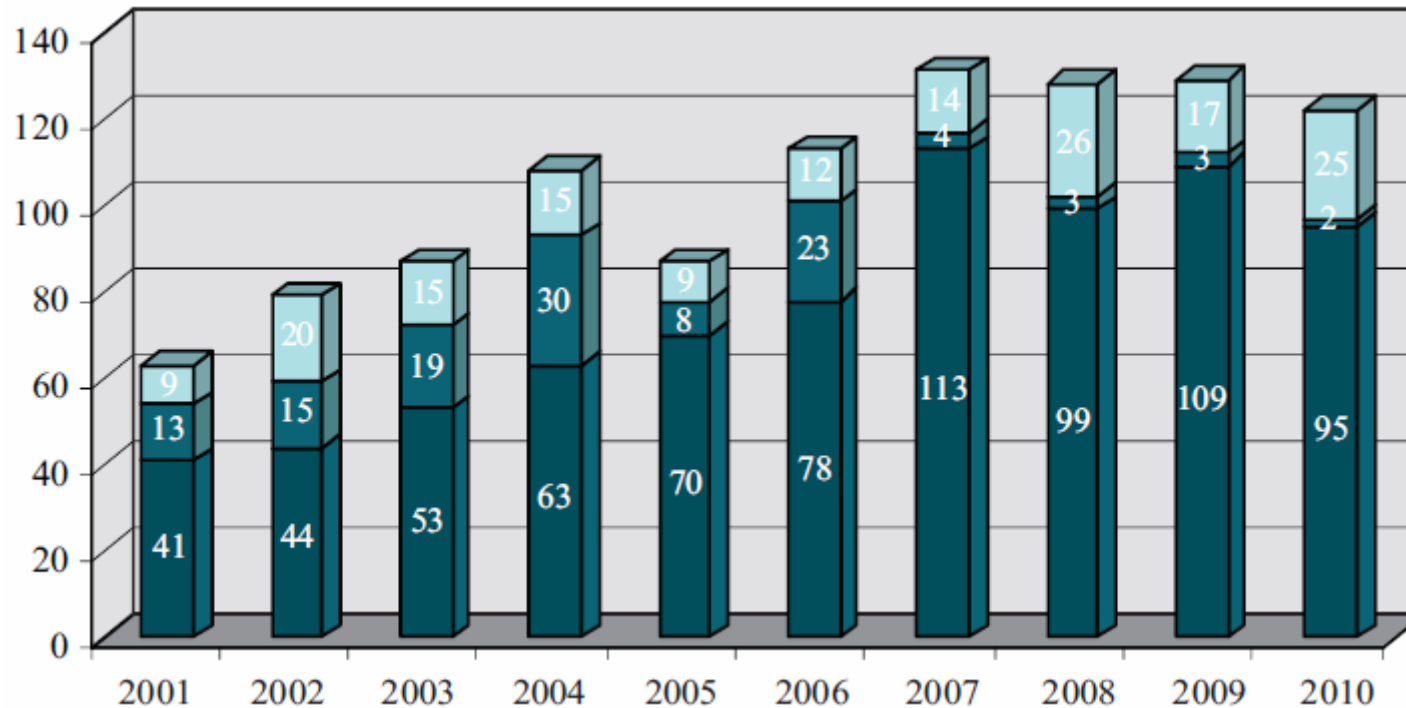
■ Universities   ■ Government Research Institutes   ■ Research Hospitals

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## DANISH PATENT AND TRADEMARK OFFICE

# Patent applications filed, 2001 - 2010



■ Universities ■ Government Research Institutes ■ Research Hospitals

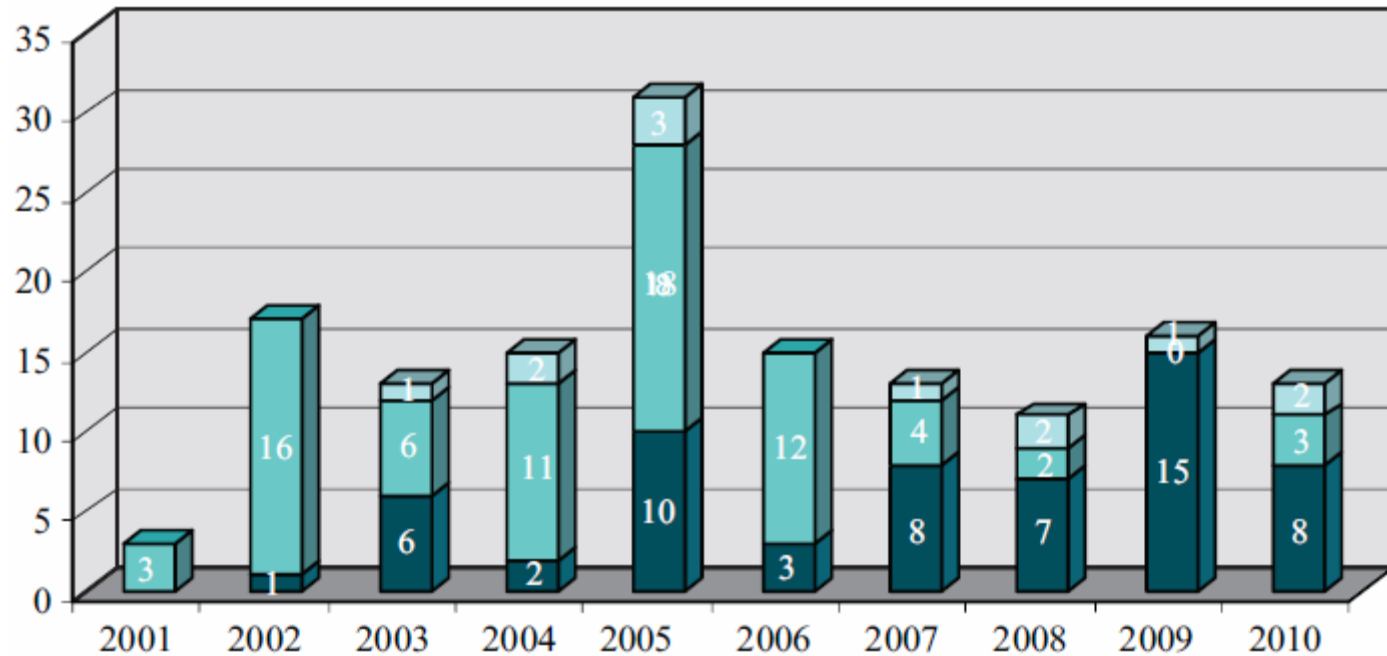
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## DANISH PATENT AND TRADEMARK OFFICE

# Patents issued, 2001 - 2010

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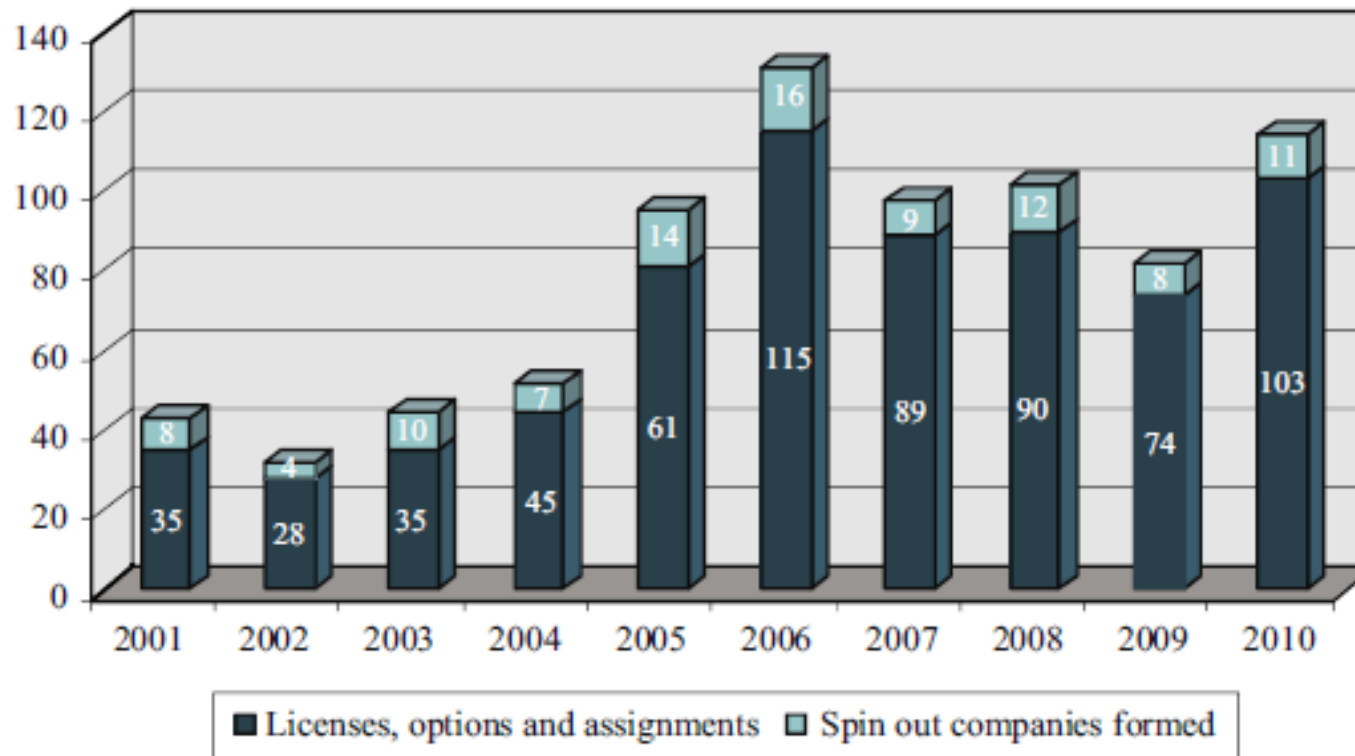
■ Universities ■ Government Research Institutes ■ Research Hospitals



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### Commercialisation performance, 2001-2010

Number of commercialisations



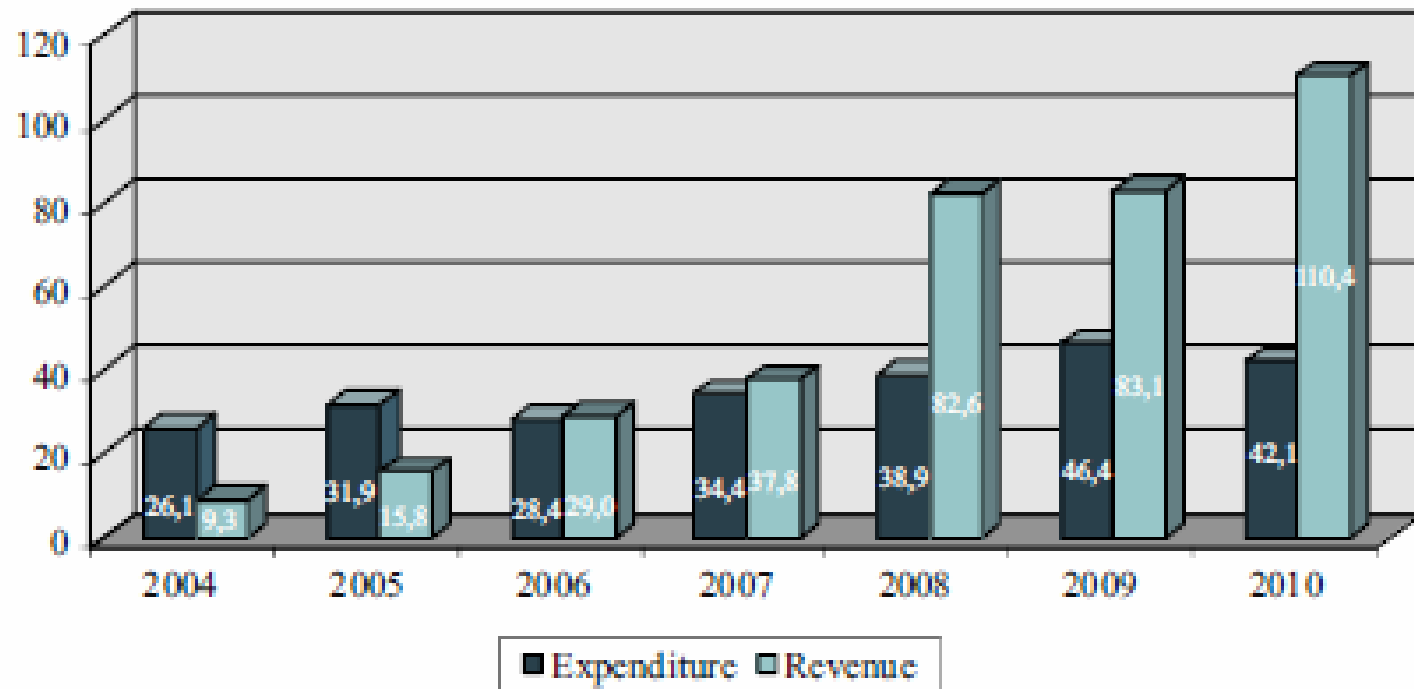
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## DANISH PATENT AND TRADEMARK OFFICE

### Commercialisation revenues and expenditure, 2004-2010

Million DKK



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Summary	Universities	Government Research Institutes	Research Hospitals	Total 2010	Total 2009
Invention disclosures received	255	4	69	328	291
Patent applications filed	95	2	25	122	129
Patents issued	8	3	2	13	16
Licenses, options and assignments executed (incl. software)	96	0	7	103	74
Total license portfolio (excl. software)	107	3	17	127	107
Spin-out companies formed	10	0	1	11	8
Technology transfer staff (full-time equivalent)	50.5	2.1	15.2	67.8	66.2
Commercialisation costs (DKK million)	30.6	4.0	7.5	42.1	46.4
License income received (DKK million)	42.8	64.7	2.8	110.4	83.1
Research Agreements with private enterprises	2,020	7	710	2,737	–

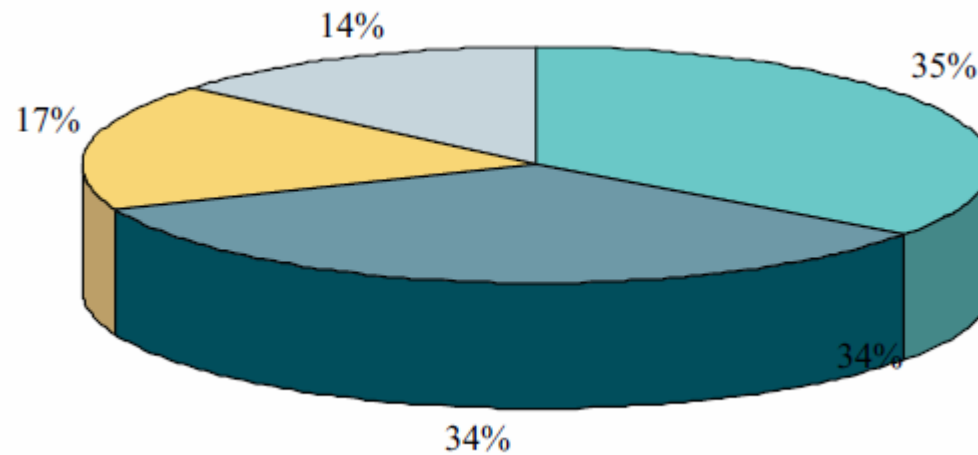
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Agreement distribution - IPR agreements, 2010



- Patents sold
- Patent licenses sold
- Software-licenses
- Options agreements

	Patent portfolio (2010)	Licenses Portfolio ultimo 2010		Number of companies of which shares or options are held (2010)	Number of research agreements with private companies (2010)	Number of research agreements with public committees, funds a.m. (2010)	Number of research agreements with public institutions (2010)
		Total	of which generated income in 2010				
Universities:							
Aalborg University	4	9	4	12	334	57	415
Aarhus University	5	21	7	6	282	49	88
Technical University of Denmark	77	10	7	13	277	525	220
IT University of Copenhagen	1	0	0	0	3	4	3
Copenhagen University	5	58	15	2	180	126	143
Roskilde University	0	1	1	0	51	21	68
University of Southern Denmark	0	8	3	6	56	20	34
Copenhagen Business School	0	0	0	0	10	25	23
Government Research Institutes:							
State Serum Institute	13	3	3	0	7	0	9
Geological Survey of Denmark and Greenland	2	0	0	0	0	0	0
Hospital Regions:							
Aalborg Hospital	0	1	0	0	68	0	0
Odense University Hospital	0	0	0	0	24	1	0
Tectra (The Capital)	12	16	6	5	438	28	27
Region Central Jutland	0	0	0	1	149	2	27
<b>Total</b>	<b>119</b>	<b>127</b>	<b>46</b>	<b>45</b>	<b>1879</b>	<b>858</b>	<b>1057</b>

	Gross Income - Commercialization – 2010 (in 1.000 DKR.)							
Universities	Lincenses (patents)	Licenses - software	Patents sold	Software sold	Spin off company shares sold	Reimburs ement of IPR expenses	Dividens from owned shares	Income Commeri alization Total
Universities:								
Aalborg University	0	0	411	1936	0	628	0	2975
Aarhus University	2357	0	0	0	0	1290	16	3663
Technical University of Denmark	3090	9677	495	0	17625	321	0	31208
IT University of Copenhagen	0	0	0	0	0	0	0	0
Copenhagen University	1224	0	50	0	0	3789	0	5063
Roskilde University	350	0	0	0	0	0	0	350
University of Southern Denmark	102	0	0	0	0	75	38	215
Copenhagen Business School	-	-	-	-	-	-	-	0
Government Research Institutes:								0
State Serum Institute	54850	0	9900	0	0	0	0	64750
Geological Survey of Denmark and Greenland	0	0	0	0	0	0	0	0
Hospital Regions:								0
Aalborg Hospital	0	0	0	0	0	0	0	0
Odense University Hospital	0	0	0	0	0	0	0	0
Tectra (The Capital)	2617	0	0	0	0	15	0	2632
Region Central Jutland	173	0	0	0	0	0	16	189
								0
<b>Total</b>	<b>64763</b>	<b>9677</b>	<b>10856</b>	<b>1936</b>	<b>17625</b>	<b>6118</b>	<b>70</b>	<b>111045</b>



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	Patent portfolio (2010)	Licenses Port folio ultimo 2010	
		Total	of which generated income in 2010
Technical University of Denmark	77	10	7
State Serum Institute	13	3	3

	Gross Income - Commercialization – 2010 (1.000 DKR)					
	Lincenses (patents)	Licenses - software	Patents sold	Software sold	Spin off company shares sold	Income Commercialization Total
Universities						
Technical University of Denmark	3.090	9677	495	0	17.625	31.208
Statens Seruminstitut (State Serum Institute)	54.850	0	9.900	0	0	64.750

# **DTU – Technical University of Denmark**

Approach to innovation and development

Source: DTU





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# REINFORCED BLADE FOR WIND TURBINE

Publication no.: WO/2008/089765

Applicant: **DANMARKS TEKNISKE UNIVERSITET** [DK/DK]; Anker Engelundsvej 1, Bygning 101A, DK-2800 Kgs. Lyngby (DK) *(For All Designated States Except US)*.  
**JENSEN, Find, Mølholt** [DK/DK]; (DK) *(For US Only)*.  
**NIELSEN, Per, Hørlyk** [DK/DK]; (DK) *(For US Only)*

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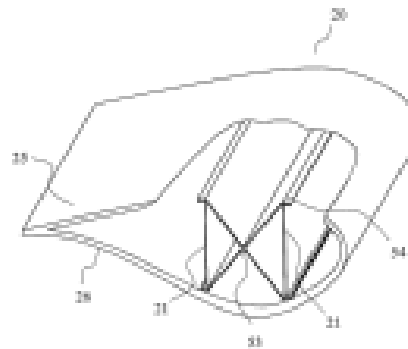
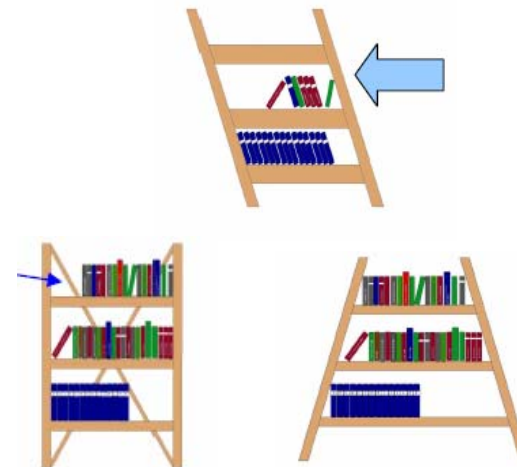


Fig. 10



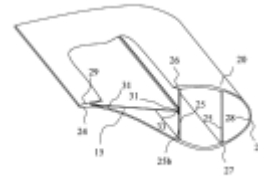
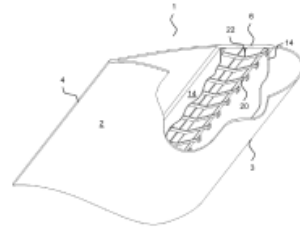
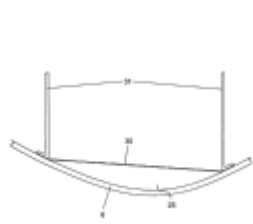


Fig. 8

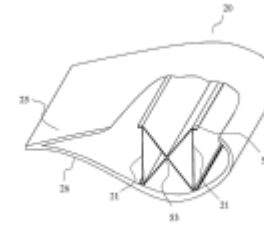


Fig. 10

WO2008/071195: REINFORCED AERODYNAMIC PROFILE

PCT/EP2010/068521: REINFORCED AIRFOIL SHAPED BODY

WO2008/086805: REINFORCED BLADE FOR WIND TURBINE

WO2008/089765: REINFORCED BLADE FOR WIND TURBINE

WO2009/155921: A WIND TURBINE BLADE WITH ANGLED GIRDERS

WO2008/092451: WIND TURBINE BLADE

WO2009/0155920: A REINFORCED WIND TURBINE BLADE

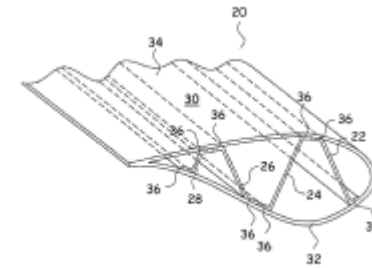


Fig. 4

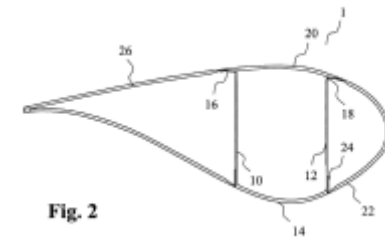


Fig. 2

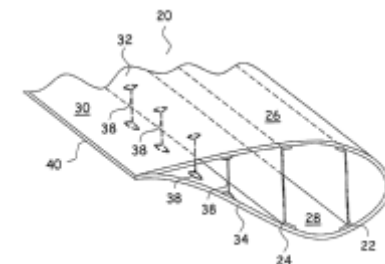


Fig. 2

# Statens Serum Institut

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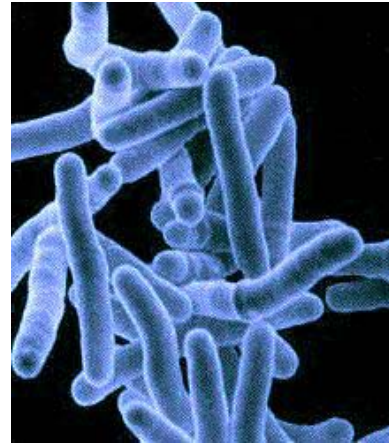






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## Tasks for the Institutions

- What is the commercial potential
- What to protect
- What is the best protection (Patent/Secrecy)

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