



**UPM**  
UNIVERSITI PUTRA MALAYSIA  
BERSAMA BERSAMA

# Invention Disclosure Process, Patent Protection and Cost Management



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Universiti Putra Malaysia

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BERSAMA BERSAMA

## Contents

- Overview & Importance of IP
- Incentives for Researchers
- Invention Disclosure process
- IP Protection & Management
- Cost Associated with IP Protection
- Challenges



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# Intellectual Property

## Hidden treasurers!

**Engine for future growth**

**Era of I Economy**



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# Intellectual Property



| IP an important indicator of  
social & economic benefits -  
Nation building

| Generates revenue



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## Financial benefit to nation

20% OER (Malaysia average)

RM50 billion (2008)

If OER increased by 1%      500 million

If OER increased by 2%      1000 million



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IMAGINE A COMPANY HAVING THE NAME "SONS OF SHOEMAKERS" AND "SONS O' BITCHES".

PRETTY AUDACIOUS, DON'T YOU THINK?

NOT REALLY. BECAUSE BESIDES THEIR LITERAL TRANSLATION THE TERMS "SCHUSTERJUNGEN" AND "HURENKINDER" ARE ALSO A CONTRASTING WORD PAIR

WELCOME TO MY SITE!

START TYPING TO CHANGE THE MESSAGE!

USED IN GERMAN TYPOGRAPHY.

THE ENGLISH TYPOGRAPHIC EQUIVALENTS ARE "WIDOWS" AND "ORPHANS".

NOW THAT YOU'VE BEEN INTRODUCED TO THE MEANING OF OUR COMPANY NAME, WE HOPE YOU'LL ENJOY OUR WEBSITE.

Post-It Note

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## Incentives for researchers!

- ☺ MR5,000 (US\$1600) for filing patent
- ☺ MR10,000 on receiving patent certificate



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**National Commercialised Product Award**  
**RM20,000 (US6450)**

PROF. DR. MD NORDIN HJ LAJIS  
Professor  
Department of Chemistry  
Faculty of Science  
Natural Product Chemistry:  
Organic Synthesis

*"Challenges  
are seeds for  
success.  
Complacency  
breeds failure"*

a world leader in **new** tropical agriculture

**Challenges are seeds for success.  
Complacency breeds failures**

DR. OSUMANI HARUNA AHMED  
Senior Lecturer  
Department of Crop Science  
Faculty of Agriculture and  
Food Science (UPMKS)  
Agriculture, Sciences, Soil and  
Water Sciences

*"Until the bones  
are rotten,  
never say die."*

a world leader in **new** tropical agriculture

**Until the bones are rotten never say die!**

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**Bestowed the  
honorific title  
"Dato"**



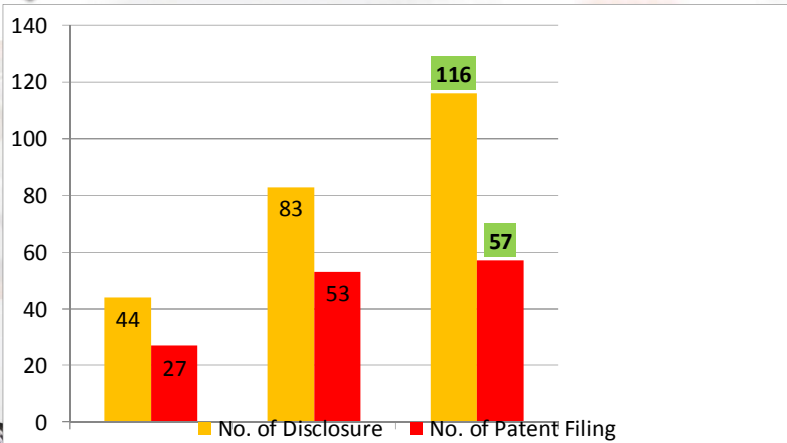
# Advanced Commercialisation Courses



4 days x 2 programme

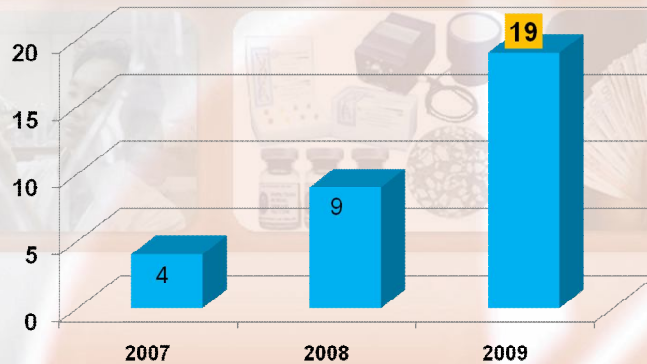


## Increase in technology disclosures & patent filing





## PCT filing as of November 2009



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## Patent 2009

Patents Granted 49

226 Patents Pending

Filed in foreign countries 69

- China
- European
- India
- Indonesia
- Japan
- Phillipine
- Singapore
- Switzerland
- Thailand
- Taiwan
- United Kingdom
- United States
- Vietnam

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# Invention disclosure process



A new culture in the Univ. & PRIs!

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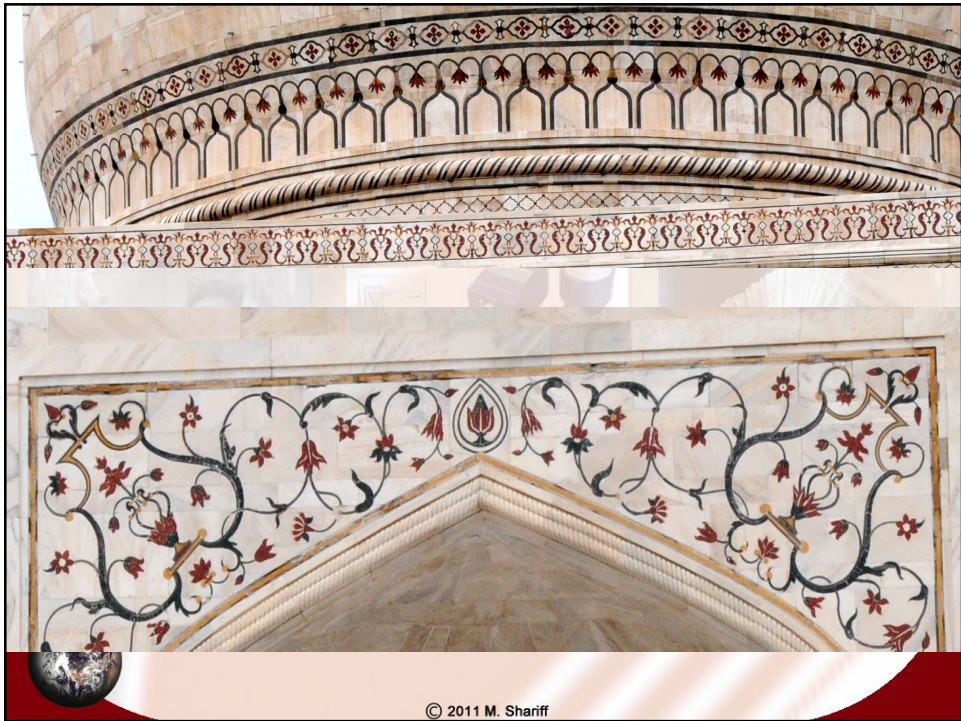


1648

It is alleged that on its completion, Shah Jahan ordered the right hand of the chief mason to be cut off so that the masterpiece could never be recreated



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## Disclosure & Evaluation of Technologies

**Potential Applications:**

**Military and Law Enforcement**  
 Replaceable Armor inserts for bullet proof vest  
 Armor panel for vehicle or mobile unit  
 Panel for bunker and platform

**Aerospace Industry**  
 Bullet proof flight/cockpit deck interior panel  
 Aircraft component

**Automotive Industry**  
 Ballistic resistant interior panels/bumper

**Building Industry**

**Meeting every  
2 weeks**

**45 min**


**Meetings:** i) Learn technology  
 ii) Approve/reject patent/copyright/TS  
 2-3 iii) Fine tune  
 iv) Add financial aspects

# Disclosure & Evaluation of technologies

## Panel:

- Biotechnology
- Physics
- Engineer
- Biology
- Chemistry
- IT
- Business

SULIT (CONFIDENTIAL) UPM/TNCP/ICC/P01/PP/BR1



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**INNOVATION AND COMMERCIALISATION CENTRE**  
Tel : 03-8947 2055 Faks : 03-8947 2059 [http:// www.icc.upm.edu.my](http://www.icc.upm.edu.my)

**PATENT APPLICATION FORM**

**Note:** You are required to read about IPR before submitting your application for approval.  
Please visit the following websites:  
<http://www.wipo.int/patentscope/en/patents.html>  
[http://www.myipo.gov.my/index.php?option=com\\_content&task=view&id=12&Itemid=7](http://www.myipo.gov.my/index.php?option=com_content&task=view&id=12&Itemid=7)

**Part A**

Source of fund and Cluster: [ ✓ or/atau X ]

<u>Geran Penyelidikan / Source of fund</u>	<u>Kod Projek / Project Code &amp; Nilai geran / Grant Value (RM)</u>	<u>*Kelompok / Cluster</u>
<input type="checkbox"/> IRPA grant <input type="checkbox"/> Fundamental grant <input type="checkbox"/> Science fund <input type="checkbox"/>		<input type="checkbox"/> Agriculture <input type="checkbox"/> Food <input type="checkbox"/> Health <input type="checkbox"/> Science, Technology and Engineering

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9. Percentage of Income distribution and contribution credit  
(Commercialization / Incentive)

**INVENTORSHIP**

I (We) propose to divide the invention with the listed inventor(s) in the proportion(s) specified before each signature below.

<u>Inventor (s)</u>	<u>Percentage of distribution (%)</u>	<u>Signature</u>
1.		
2.		

**OWNERSHIP**

<u>Owner &amp; Co-Owner</u>	<u>*Percentage of distribution (%)</u>
1. Universiti Putra Malaysia	
2.	

\*Based on agreement (if applicable): Reference:.....

**Part B:**

**Instruction:** Please visit the following website to search for prior art of your invention. Indicate your keywords used for the search in the column below. Please refer to Appendix 1(a).

<u>Databases</u>	<u>Keywords search</u>
1. United States Patent and Trademark Office (USPTO) <a href="http://www.uspto.gov/patft/index.html">http://www.uspto.gov/patft/index.html</a> <input type="checkbox"/>	
2. European Patent Office (EPO) <a href="http://ep.espacenet.com/">http://ep.espacenet.com/</a> <input type="checkbox"/>	
3. Intellectual Property Office of Singapore <a href="http://www.surip.gov.sg/">http://www.surip.gov.sg/</a> <input type="checkbox"/>	
4. The Industrial Property Digital Library (IPDL, JPO) <a href="http://www19.ipdl.inpit.go.jp/PA1/cgi-bin/PA1INIT?1175476102765">http://www19.ipdl.inpit.go.jp/PA1/cgi-bin/PA1INIT?1175476102765</a> <input type="checkbox"/>	
5. PatentScope, (WIPO) <a href="http://www.wipo.int/pctdb/en/">http://www.wipo.int/pctdb/en/</a> <input type="checkbox"/>	

**Instruction:** Please indicate any publication or public disclosure.

<b>Prior Publication</b>	<b>*Details of public disclosure</b>
<p>1. Have you described any aspect of the invention in the following:</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> abstract</li> <li><input checked="" type="checkbox"/> journal</li> <li><input checked="" type="checkbox"/> article</li> <li><input checked="" type="checkbox"/> book chapters</li> <li><input checked="" type="checkbox"/> posters</li> <li><input checked="" type="checkbox"/> thesis</li> <li><input checked="" type="checkbox"/> website</li> <li><input checked="" type="checkbox"/> oral presentation</li> <li><input checked="" type="checkbox"/> discussion with third party without NDA</li> <li><input checked="" type="checkbox"/> Other .....</li> </ul>	<p>i) Name / title of disclosure: .....</p> <p>.....</p> <p>.....</p> <p>ii) Date published / disclosed: .....</p> <p>.....</p> <p>.....</p> <p>iii) References: .....</p> <p>.....</p>
<b>Planned Publication</b>	<b>*Details of planned publication</b>
<p>2. Do you plan, within the next 12 months, a publication or oral presentation that discloses the invention in any way?</p>	<p>i) Name / title of disclosure: .....</p> <p>ii) Actual / expected date: .....</p> <p>iii) Countries for publication: .....</p>

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**Instruction:** Please answer questions below for technology disclosure. If you have any questions, or would like assistance in completing the form, please contact the ICC at (03) 9847 1286, or email [ipr@icc.upm.edu.my](mailto:ipr@icc.upm.edu.my).

- TITLE OF INVENTION**  
Brief title that discloses what the invention does.
- CATEGORY**  
What has been invented? Is it a new
  - Composition matter
  - Process/ Method
  - Product
  - Combination of existing technology
  - Improvement to an existing technology
  - Other Category
- FIELD OF INVENTION**
- GENERAL DESCRIPTION**
  - Describe the invention in general. What does it do? How does it work?
  - Indicate the advantages of this invention.
- PRIOR ART (EXISTING TECHNOLOGY)**

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## 5. PRIOR ART (EXISTING TECHNOLOGY)

- (a) What is the closest process / product you are aware of to your invention?  
Please give references.
- (b) Is there any existing technology which performs the same function in a different way?
- (c) Is there any combination of existing process / product which would be similar to your invention?

## 6. DETAILS OF THE INVENTION

*In order to be patentable, an invention must be **NOVEL, NOT OBVIOUS** and **USEFUL** based upon everything which was available at the time of the invention.*

### i) Novelty and Non-obviousness

- (a) Please describe the unique aspects of your invention, and how it is different and/or better than the existing technologies in no. 5. What problem does the invention solve?
- (b) Describe how others have tried to solve this problem in the past?
- (c) Why do you believe the invention would NOT have been obvious to another researcher working on the same problem at the same time?

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### ii) Uses

- (a) Please indicate the primary applications of the invention.
- (b) Indicate the potential application of the invention in the future.
- (c) How is the invention being applied to obtain the utility described above (describe the process or method)?
- (d) Indicate potential application of the invention in other field.

## 7. CLAIMS OF THE INVENTION

The claims define the scope of the protection of the patent and it is the main highlight of the patent specification

- (a) Please state the main feature / factor that you have invented in your embodiment/prototype/result.
- (b) List down all other features/factor to support the main feature/factor in (a).
- (c) Are there any critical ranges of size, weight, pressure, or working condition for any parts of your invention?

## 8. STAGE OF DEVELOPMENT

Please check the most closely describes the current stage of your invention.

- Complete proof of concept       Prototype available       Ready to be commercialised       Others

## 9. LIMITATION

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## 9. LIMITATION

- (a) Indicate any disadvantages or limitations of the invention (If any).
- (b) What could be added to make the invention better?
- (c) Is further development of the invention now in progress or contemplated?

## 10. EXPERIMENTAL VERIFICATION

- (a) Please provide/attach supporting evidence to support working condition of the invention as mentioned in No. 7.
- (b) Attach sketches, drawings, photos, manuscripts, flow diagrams, graphs, and any other materials that help illustrate the invention in the embodiment.
- (c) Has the product been tested and comply with regulation / standard required?

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## 11. COMMERCIALISATION

Please list down any main players in the field of this technology that you are aware of.

## 12. OTHER SERVICES

Please list tick other services/assistance that you require.

- Fund for up scaling/prototype
- Fund for Clinical trial
- Industrial partner for commercialization
- Industrial partner for further research
- Other:.....

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### Reasons for non approval:

- Published or in public domain
- No novelty **2 years ago!**
- No thorough prior art search
- Poorly prepared presentation

**Get patent No. within 3 months**

**If approved: Send to panel of legal patent filing agents (5)**

### Process for Invention disclosure


**Complete Invention Disclosure Form & Submit with prior art search documents**

**Applicant invited within 2 week for invention disclosure presentation**

**Approval/rejection letter sent within 1 week & if approved a copy to patent agent**

**The process at TT office - 3 weeks**

## Process for Invention disclosure



Agent meets applicant in TT office or faculty to assist finalise patent document

Agent given 3 months to work with Applicant to finalise patent document

TT office monitors document quality

Agent files for registration at MyIPO



## Patent Protection: Appropriate Strategies & Options





## Confidentiality

**Panel members sign a non-disclosure agreement (NDA)**

- Documents only distributed during meeting
- Members cannot removed documents from meeting room

**No circulating of documents for approval!**

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# WARNING !

Your invention can be **STOLEN** by  
someone!

You may **LOSE** your invention that **HAS  
BEEN DISPLAYED IN THE PUBLIC DOMAIN**

Somebody can steal it!

**SOMEBODY WANTS IT F.O.C**



To protect your invention please call ICC :  
03 - 8947 2055      [www.icc.upm.edu.my](http://www.icc.upm.edu.my)




## IP Management

Patent before participation in  
exhibitions/seminars  
& publishing

**Protect the  
technology!**





# IP Management

**NO CAMERAS**



Please be advised that Cameras are NOT permitted at INPEX without authorization! Because many exhibitors feel uneasy about strangers taking pictures of their invention or display, we feel it is best to prohibit cameras or cam recorders. Only media will be permitted to have cameras or video equipment.

**At Pittsburgh Exhibition**

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# IP Management

Non disclosure agreement :-

- Students
- Evaluators

**New guidelines!**



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# IP Management

- On registration students assign IP to UPM
- Staff members



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# Provide 1<sup>st</sup> class service

- Credit for promotion
- Make it easy for researchers to patent
- Provide prompt professional service
- Commercialise IPs to generate income for researchers

Synergize with research staff & private sector to commercialize technologies

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<http://www.icc.upm.edu.my>

**Commercialised Product / Technology**

- Patent
- Trademark
- Copyright
- COMMERCIALISATION
- Commercialisation in UPM
- Technologies & Products
- COMMERCIALISATION DEVELOPMENT RESEARCH
- Commercialisation Case Management
- Research in UPM
- TRAINING & EVENT
- List of Trainings & Events
- Program
- DOWNLOAD
- Forms
- Others

**ICC'S Services:**

**For UPM researchers:**

- Patent application
- Commercialisation of technology
- Contract research and consultancy
- Training in intellectual property (IP) and commercialisation

**For External Clients:**

- Technology and IP expertise
- Contract research and consultancy
- Research funding for business and commercialisation

**Commercialised Products / Technologies for Commercialised**

- Agriculture Technology
- Engineering Technology

**Potential Products/ Technologies for Commercialised**

**Facts & Figures**

Patent Granted Malaysia Other Countries	29 13
Patent Pending Malaysia Other Countries	199 31
PCT Filing PCT	24

Total Visitor: 2592

**Promotion/marketing**

<http://www.icc.upm.edu.my>

**UPM Patent Search**

**List of UPM Patent**

**Promotion/marketing**

The image shows a composite of three screenshots from the UPM Patent Search website. The top-left screenshot is the homepage, featuring navigation menus for Intellectual Property Rights, Commercialisation, and various research services. The top-right screenshot shows search results for the keyword 'enzym', listing two patent entries with their titles and project leaders. The bottom-right screenshot displays a 'List of UPM Patent' for the cluster 'Science, Technology and Engineering', showing a table of 10 patents with their titles, countries, and statuses. A large red arrow points from the URL at the top left to the search results, and another red arrow points from the search results to the list of patents. A green box at the bottom contains the text 'Promotion/marketing'.

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**Costs associated with Protection & Management of IP**

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The slide features a background image of laboratory glassware, including beakers, test tubes, and bottles. The title 'Costs associated with Protection & Management of IP' is centered in a large, bold, red font. In the bottom left corner, there is a small globe icon. The footer contains the copyright notice '© 2011 M. Shariff'.



## Cost Estimates Related to Patents

### Cost for:

Local	US\$2,200 – 2,700
Substantial exam	600 - 850
Annual maintenance fee	150
PCT filing	3,500

**Rough estimate for about 300 patents filed  
= US\$2 million**

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## Funds for patent filing

- TMO given a budget
- Ministry of Science Technology & Innovation (MOSTI) provides funds along with project
- Can also apply for funds from MOSTI



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## Revenue generation

- ☺ Main aim of TT is to contribute towards nation building and indirectly creation of wealth
- ☺ Monies can be recovered if aggressive in marketing
- ☺ One big breakthrough technology in the global market can sustain the MOT for many years

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## CHALLENGES



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# Challenges

- Disclosure of critical technology knowledge

**Scientist very found of telling everything to everybody!**

is difficult can induce misconduct



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# Negotiations

❖ 1st offer RM200,000

- ❖ Final offer RM 4 million
  - + 20% equity to researcher
  - + 5% equity to UPM
  - + Consultancy

**Right expertise to negotiate**



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# Challenges

- ❖ **Identifying Patents for PCT filing** – 18 mts grace period for national filing - not sufficient time for commercialisation status indication
- ❖ **Poorly written patent claims – too narrow & specific** – patent agents not doing their job



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# Follow up with patent agents to ensure well written patents



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## Up scaling of technologies

- ❖ Many patents are lab-scale technologies product / process; companies not convinced to invest
- ❖ Get more funds & match make with Co. to upscale the technology



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### Pilot scale Production of CQ10



US\$1.4 Million







## Awareness

- ❖ Keep communications open so that every one know what's going on
- ❖ Involve the policy makers and Co. in the awareness campaigns
- ❖ Awareness campaigns – Phase II
- ❖ Awareness campaigns – Phase III



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## 3 essential players in innovations

### 1st Player



### Creative Geniuses

- Develop ideas
- Generate value added innovations



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## 2<sup>nd</sup> essential player

### Innovation Champions

- We promote, encourage, & support innovation
- We help creative people overcome obstacles



**DVC (Research & Innovation) & team members**



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## 3<sup>rd</sup> essential player

Innovation

- The...
- le...

**My experience  
favour in**

**I want UPM  
to be a world  
class  
university**

**to**

**If policies are restrictive  
making it impossible to test  
new ideas, then there won't be  
many new ideas & innovations**



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## DR. MAHATHIR MOHAMAD

### MALAYSIAN INDUSTRIES

By *Dr. Mahathir Mohamad* on October 6, 2009 2:11 PM

1. I feel sorry for Malaysian manufacturers. They find it difficult and sometimes impossible to market their products in the country because somehow Malaysians, including the Government and its agencies cannot believe that Malaysian products are as good, if not better than imported goods.
2. When Malaysian products cannot be sold at home, it becomes almost impossible to convince foreign buyers to buy them. The question that foreigners often ask is whether Malaysians especially the Government have bought them.

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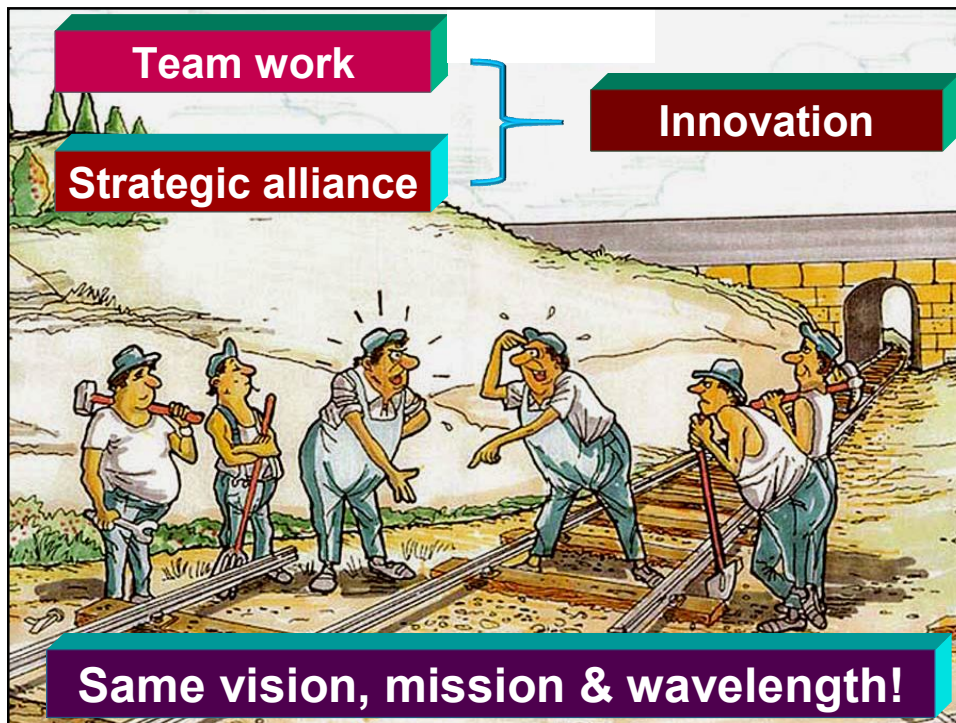
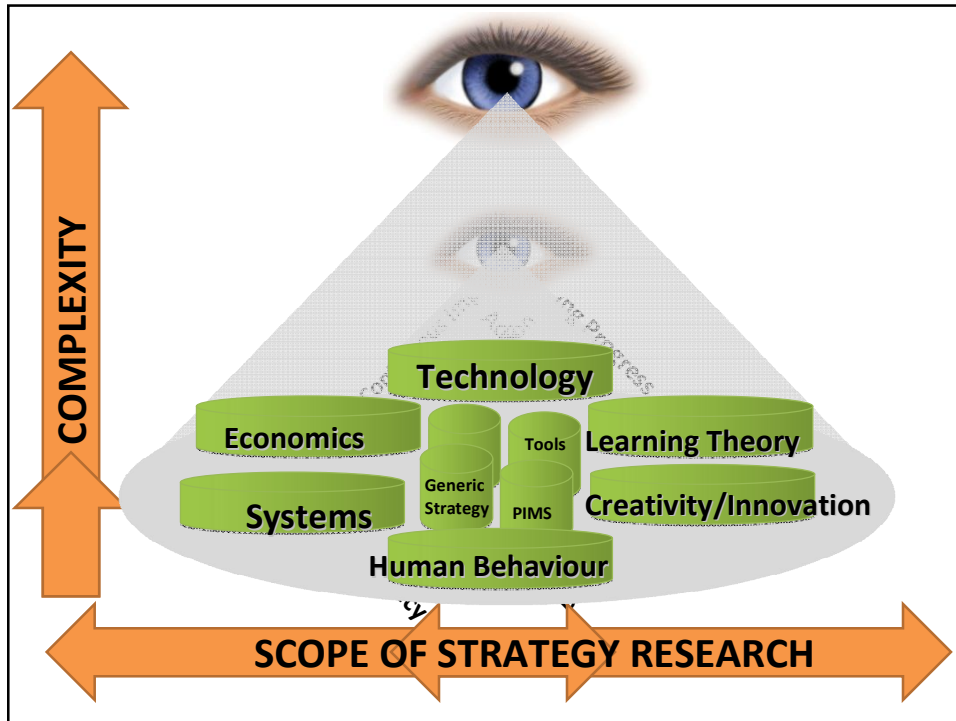
## DR. MAHATHIR MOHAMAD

3. Despite this failure to market Malaysian products locally, some have still managed to be marketed abroad. And some have been very successful.

4. These Malaysians are not asking for protection or even favours. All they want is to be properly evaluated against foreign competitors when they make bids. But somehow they seem to fail always.

5. There are excuses of course. The foreign suppliers have been supplying for years and years. They just cannot be dropped.

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**Think innovatively to be innovative**

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