



## Introduction to Intellectual Property

Future Energy Exports CRC, 22 June 2021

# Overview

- Introduction to IP
  - Patents
- Ownership
- Identifying IP
- Capturing IP
- IP Strategy



Questions via Chat box  
Slides to be circulated

# Introduction to IP

# Proactive vs Reactive



Proactive IP management can help to avoid lost opportunities, prevent wasting resources and help identify new opportunities

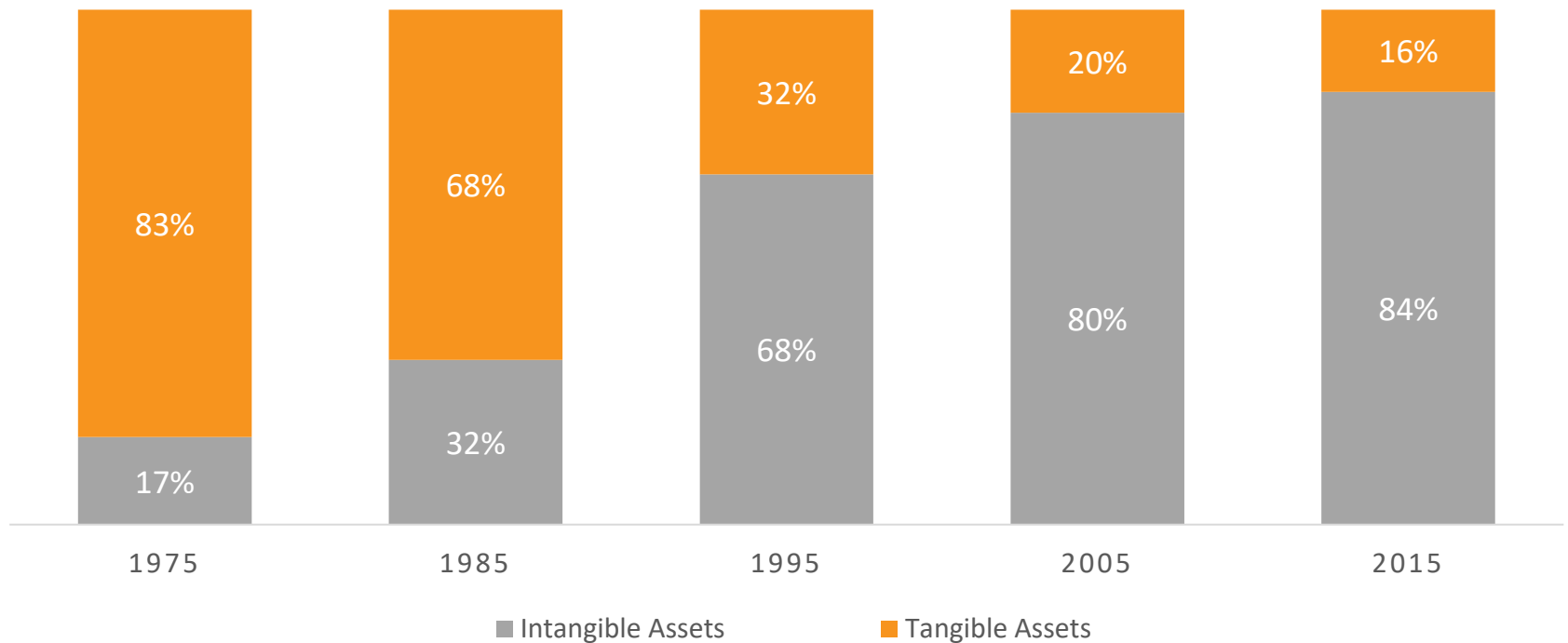
# What is IP?

- Inventions
- Concepts
- Data
- Processes
- Documents
- Trade Secrets
- Pictures
- Drawings
- Software
- Know-how
- Product Design
- Control Strategies
- Product Labelling
- Reports
- Branding
- Programs
- Trade Names
- Results
- Logos
- Ideas
- Confidential Information



# Tangible vs. Intangible Assets

Components of S&P 500 Market Value



Source: Ocean Tomo, LLC

# Joe is about to buy a new BMW...

Appearance  
may be  
protected by a  
**Registered  
Design**

BMW  
technologies  
will be  
protected by  
**Patents**

BMW is a  
**licensee** for  
third party  
technologies



BMW and its  
various sub-  
brands will be  
protected as  
**Trade Marks**

BMW would  
have  
collaborated  
with third  
parties on  
aspects of  
R&D,  
requiring **IP  
ownership  
agreements**

BMW would have  
used **trade secrets**  
to design or  
manufacture car

Computer systems  
would include  
software protected  
by **copyright**

Joe could research  
his purchase on  
websites with BMW  
**domain names**

# Registered v Unregistered

## Registered IP

- Patents
- Registered Trade Marks
- Registered Designs
- Plant Breeders Rights

REQUIRE ACTIVE MEASURES  
TO PROTECT

## Unregistered IP

- Copyright
- Confidential Information
- Trade Secrets
- Know-how
- Circuit Layouts
- Unregistered Trade Marks
- Goodwill

EXIST AUTOMATICALLY ON  
CREATION

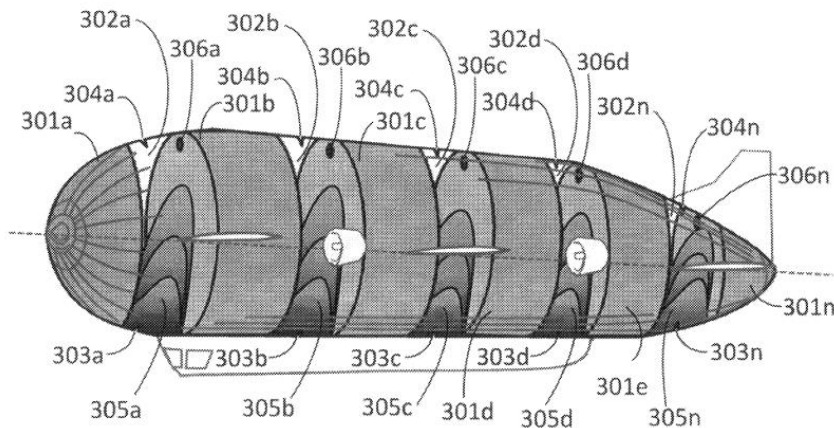


# Patent

Fixed term monopoly to protect an invention (product or process)

- Invention must be novel, inventive and useful
- Can't be an abstract idea or a law of nature
- Up to 20 years' protection
- Territorial right (needs to be filed in each country where you require protection)

# It's all about the claims



**FIG. 3**

US Patent 8,336,810 (Rinaldo Brutoco, Dec. 25 2012)

1. A method of transporting energy from a producing location to a consuming location comprising:

- permitting loading of compressed or liquid hydrogen onto a lighter-than-air ship, wherein said compressed or liquid hydrogen is produced from a fixed energy source at said producing location;

- releasing hydrogen gas from said loaded compressed or liquid hydrogen into one or more inflatable bladders in a plurality of compartments in said lighter-than-air ship from a one or more high pressure tanks to increase lift, each of said compartments having a venting mechanism allowing air to exit said compartment when a bladder is inflated in a particular compartment;

- releasing hydrogen gas from one or more of said inflatable bladders in one or more of said compartments into one or more low pressure tanks to decrease lift, the venting mechanism in a particular compartment allowing air to enter the compartment when the bladder in that compartment is deflated, the low pressure tank recapturing hydrogen gas from bladder;

- permitting said lighter-than-air ship to transport said loaded compressed or liquid hydrogen from the producing location to the consuming location;

- adapting said lighter-than-air ship to offload said compressed or liquid hydrogen at the consuming location.

# Copyright

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Protects original creative work including:

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Literary (e.g. Software, publications, databases)

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Artistic (painting, photography, architecture, pre-commercial designs)

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Musical (sound recordings)  
Dramatic (TV broadcasts, films)

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Automatic protection upon creation of the work

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Remains for lifetime of creator plus 70 years

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Belongs to creator or their employer

# Confidential information- trade secrets



The information must be truly confidential (not publicly known) to be protected in this way.



“Confidential” markings and confidential agreements can help reinforce that the information is confidential.



A person receiving confidential information has an obligation to keep it secret for the term and (optionally) may use it for the particular use specified in the agreement.

# Trade Secrets vs Patents

ISSUE	TRADE SECRETS	PATENTS
POSSIBLE TERM	Duration of secret	20 years
INDEPENDENT DISCOVERY	No protection against ID or reverse engineering	Protected against ID and often reverse engineering
SCOPE FOR PUBLICATION	No	Yes
ENFORCEMENT	Breach of confidence, contract, fiduciary duty etc.	Infringement
SCOPE OF PROTECTION	Specific to particular secret	Can be broadened beyond specific discovery



# What about ideas?



Contrary to what some people think, you can't own an idea by itself.



Instead ownership requires the idea or its application to be protected by a patent, trade secret, etc.

# What about data?

- You can't own data either
- It's all about control – access to data, how data is used, etc.
- Need to control access to data with legal agreements

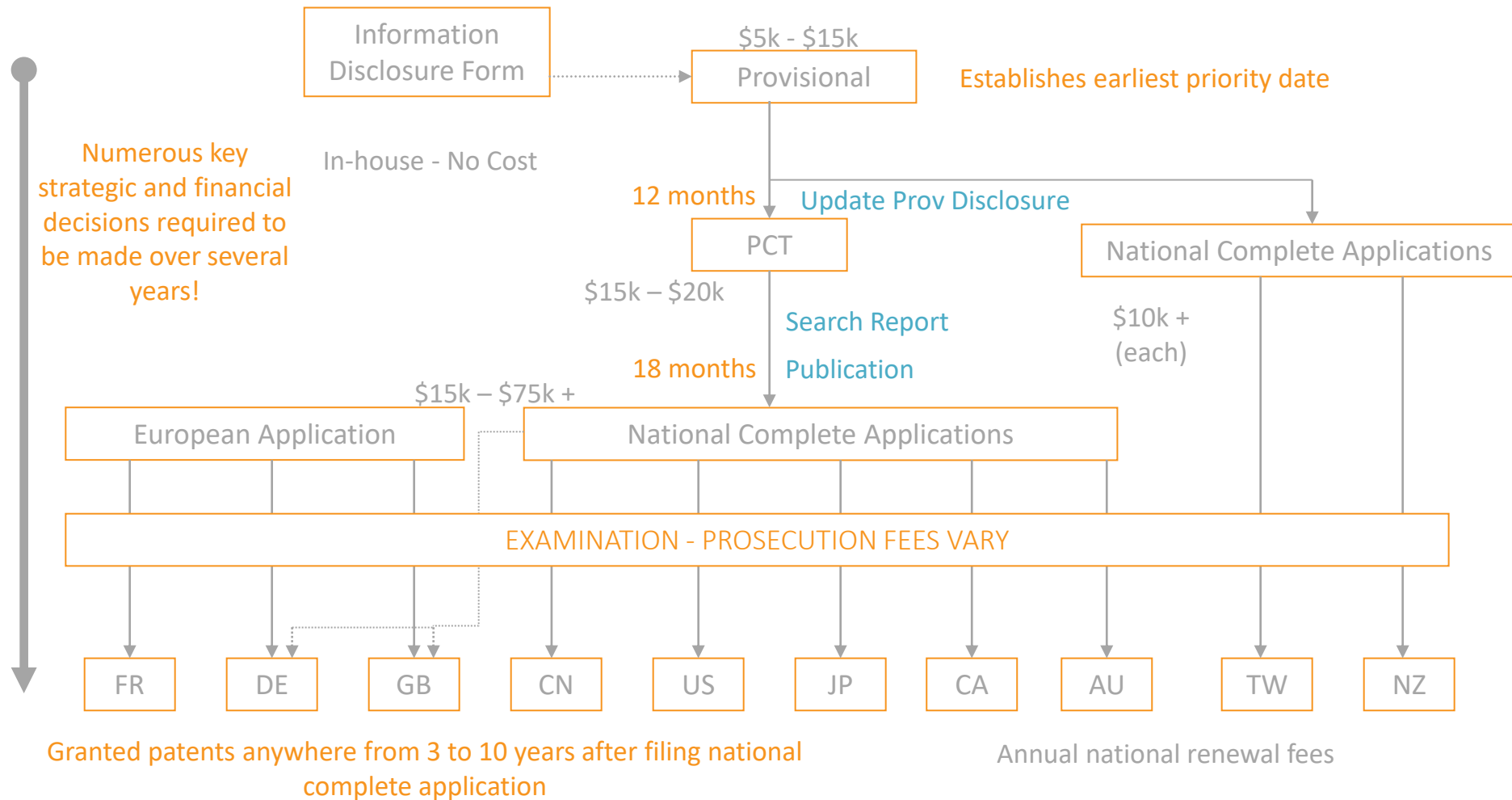
# Negative and positive rights

- IP rights are a negative right, ie. a right to exclude
- They are in general not a positive right, ie. the right to do something
- For example, imagine 2 patents:
  - A first patent for a tyre
  - A slightly later patent for a tyre with tread, filed by somebody else
  - The owner of the second patent would still need to seek a licence from the owner of the first patent to sell a tire with tread, at least until the first patent expires



# Patents

# Patent System



# Tests for Patentability

## Standard Patents

- Claims must define patentable subject matter
- In most countries, the invention must not have been **sold, offered for sale** or **secretly used** for the purpose of trade or commerce prior to filing the patent application
- Claims must be **novel**
  - A common trap: **Publish or Patent?**
- Claims must be **inventive**
  - Must not be obvious to the skilled person in the technical field, considering their general knowledge
- Specification must **enable** skilled person to perform the invention across the breadth of the claims without undue burden or experimentation

# Common Mistakes

## Publishing before filing a patent application

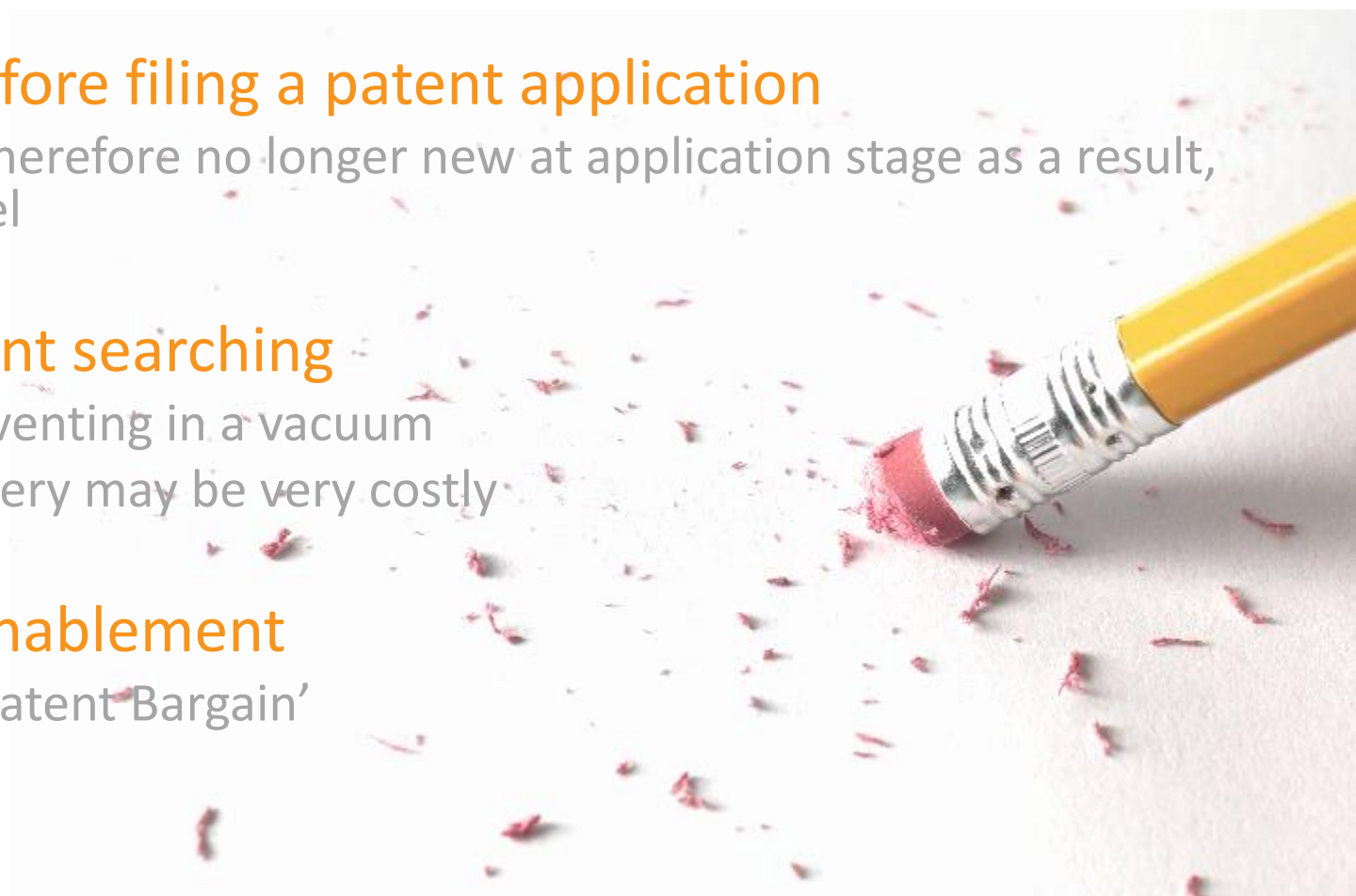
- Invention is therefore no longer new at application stage as a result, thus not novel

## No prior patent searching

- Essentially inventing in a vacuum
- A later discovery may be very costly

## Insufficient enablement

- Broken the 'Patent Bargain'



# Common Mistakes

## Publishing improvements after filing a provisional application

- Improvements may be critical to the commercial value of the invention, but if not disclosed in patent there is **no protection**

## Statements in patent specification affecting the patentability of future inventions

- Providing suggestions/motivation to further inventions

# IP Ownership

# Who is an inventor?

  
“I would be listed as an author on  
the academic paper so that  
makes me an inventor”

WRONG!

# IP Ownership

- Chain of entitlement from inventor(s) must be clear
- Owner can provide IP access (e.g. licence) to third parties
- Who has access?
  - For what purpose?
  - For what length of time?
  - Who owns improvements?





# Identifying IP

# Is it patentable?

  
“We are just combining well  
known components so it can’t be  
patentable.”

WRONG!

WRAYS

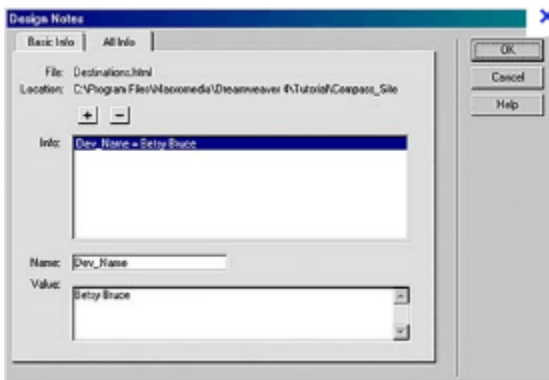
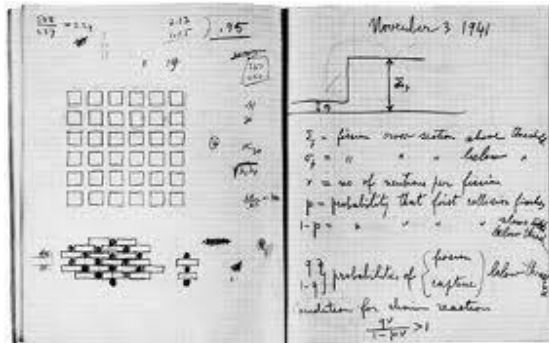
# Examples for Future Energy Exports CRC

- New and improved hydrogen production processes (e.g. electrolysis, steam reforming)
- New and improved materials for hydrogen containment
- Liquid or solid carriers for hydrogen
- New and improved uses of ammonia for transport, heat and power generation
- Mixed refrigerant compositions
- New and improved LNG plant configurations
- Gas treatment processes (e.g. separation and/or recovery of He, Hg, CO<sub>2</sub>)
- Transport logistics systems
- Remote plant operations (digital twins, visualisation)
- Real time control systems (IoT)
- Optimisation of any of the above through modelling, AI

# Capturing IP

# Capturing IP

Make detailed notes as evidence of IP



WRAYS INNOVATION DISCLOSURE DOCUMENT

This document (IDD) is intended to assist Company WXYZ with the identification and capture of their developers and innovations as they arise. If there is any doubt as to whether there is an innovation, please complete and submit an IDD anyway. Use a separate IDD for each innovation. Please complete the IDD as completely as possible. The section is left blank for those details to be submitted later. Please maintain copies of all original documentation with regard to the innovation (e.g. notebook, reports, drawings, etc.) - do not destroy anything. Please keep a copy of this IDD for personal records. When the IDD has been completed, print off a copy, sign and have it countersigned by a peer as indicated. Submit the signed and countersigned document along with the supporting data that you have collected.

IDD DATE	INNOVATION NO.
NAME / TITLE	
INNOVATOR DETAILS	
BUSINESS DIVISION	
BRIEF DESCRIPTION	
CONCEPTION DETAILS	
INNOVATION STATUS	
PRIOR / ANTICIPATED DISCLOSURE	
PROBLEM ADDRESSED	

Confidential Information of Company WXYZ Page 1

- Design Notes
- Laboratory Notebooks
- Formal IDD
- Ideas/IDD Register

# IP Strategy

# Is this your IP strategy?



*Alice:* “Can you tell me which path I should take?”

*Cheshire Cat:* “That depends a good deal on where you want to go!”

*Alice:* I don’t really know.

*Cheshire Cat:* Then, clearly, any path will do!

# Proactive IP Management

Include IP considerations into all stages of R&D and project planning

## IP Landscape

- Active monitoring of the IP landscape

## Freedom to Operate (FTO)

- May be critical for certain innovations

## Extracting Value from IP Assets

- Premium Pricing
- Licensing
- Enforcement
- Capital Raising
- Defensive
- Bargaining





**QUESTIONS?**



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### About Wrays

Wrays is one of the largest independent IP specialist firms in Australia – bringing together the right combination of experts to protect, grow and defend your intellectual property assets locally and globally.

### Disclaimer

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