Enhancing Agri-Food Tech Innovation through Intellectual Property Rights in Singapore

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Patent Attorney, GHOWS LLC
31 October 2023
Wai Yeng has over 14 years of experience in Intellectual Property. Prior to joining Ghows, Wai Yeng worked in the IP department of a number of law firms in Singapore and acquired significant experience in patent work including drafting of patent specifications, patent registrations and advising clients in relation to patent infringement and freedom to operate.

She advises businesses on both obtaining and enforcing IP rights and partners with incubators, accelerators as well as government agencies to provide technology-focused IP strategies, particularly in the area of patents.

Wai Yeng has also accumulated extensive experience in building and protecting brands in emerging markets. In a previous role, she headed the IP practice of the largest foreign law firm in Myanmar that supported rights owners in relation to the enforcement, border control, due diligence and protection of trade mark rights.
FREE South-East Asia (SEA) Intellectual Property (IP) advice for European SMEs

Know before you go

- free first-line confidential advice on IP: expert@sea-iphelpdesk.eu
- awareness-raising about IP matters in SEA affecting European SMEs
- help to European SMEs to make informed IP decisions

Available to SMEs in the EU and SMP* countries, the Helpdesk cooperates with European SME networks, chamber of commerce and industry associations to offer its services free of charge.

* The Single Market Programme countries are currently all EU member states plus Norway, Iceland, Lichtenstein, Turkey, Ukraine, Macedonia and Montenegro.

Agenda

1. Snapshot of Agri-Food Tech innovation in Singapore
2. IP Fundamentals
   - What is IP?
   - Relevance of IP to businesses
3. IP Considerations before entering a new market
4. Case Study
5. Takeaways
1. Snapshot of Agri-Food Tech innovation in Singapore
SFS R&D Programme 2.0 ‘Seed’ Grant

Launched on 2 Oct 2023. Grant call with focus on four R&D domains

- AquaPolis (Aquaculture)
- Food Safety
- Future Foods
- Sustainable Urban Agriculture

Agritech startup landscape (SEA)

01 Urban Farming
- Infrastructure
  - SINORW
  - Habitat Garden
  - GreenCity
  - Coral Farm
  + 22 more

- IoT-based Farming Systems
  - Polybee
  - SkyVIV
  - AgriDrone
  + 39 more

04 Future Foods
- Insect
  - EntoWeb
  - EntoFood
  - Nutri-Tec

- Plant-based
  - KARANA
  - LifeSt
  - Phuture

- Cellular Agriculture
  - Shiok Meats
  - SUSTENANCE
  -Sophie's Bionutrients

- Meal Replacement
  - Lembas

- Algae
Recent Agri-food tech news

**Dutch firm’s vertical mega farm to produce up to 500 tonnes of leafy greens in Singapore**

**Barramundi Group stops farming sea bass in S’pore due to deadly virus outbreak**

**OTS Holdings bridges plant-based meat frontier with ANEW brand**

- One of Singapore’s biggest manufacturers of chilled, frozen, dried and canned meat products, OTS now eyes the global market for its 100 per cent plant-based proteins.
Recent Agri-food tech news

**THE STRAITS TIMES**  APR 7, 2023

Singapore to approve 16 species of insects like crickets and grasshoppers to be sold as food

**THE STRAITS TIMES**  SEP 2, 2023

Singapore Food Agency unveils options to boost output under Lim Chu Kang masterplan
2. IP Fundamentals
IP Fundamentals

• What is IP?
  • A product of the human mind/ intellect/ skill
  • It comes in many forms, technical innovation, trading logo, business know-how, dance sequence, new plant variety, song lyrics

• IP (and their rights) can be valued, sold, transferred, licenced

• Main categories of IP
  ➔ Registrable IP, non-registrable IP
Relevance of IP to a business

Examples of tangible assets:
- Building & equipment
- Cash & bonds
- Inventory
- Land

Examples of intangible assets:
- Patents
- Brand value
- Customer data
- Regulatory approval

Source: Ocean Tomo - Intangible Market Value Study 2020
https://oceantomo.com/intangible-asset-market-value-study
AgriFood x IP

- Geographical indications
- Plant Breeders’ rights
- Trademarks
- Designs
- Patents
- Copyright
- Trade Secrets
Key Intellectual Property Rights (IPR)

- Registrable:
  - Product model
  - Mascot
  - Brand
  - Logo

- Non-Registrable in SG:
  - GUI
  - Product design
  - Packaging design
  - Songs
  - Artwork
  - Webpage
  - Photographs
Other Agri-Food IPR

Geographical indications

Plant Breeders’ rights

Korean researchers develop new orchid species with long-lasting flowers.
Relevance of IP to a business

What does it mean to you?

IP that is proprietary to you – IP protected by trademarks, patents, designs and other registrable IP rights must be registered at the relevant IP offices, before they can be enforced against third parties for unauthorised use.

It is your sole responsibility to register, maintain and enforce your IPRs in all the territories that IP protection is needed.
3. IP Considerations before entering a new market
IP Considerations before entering a new market

Your competitors
- What services and products are they offering?
- Which brands have been trademarked?
- What designs/technologies have been protected through IP registrations by these competitors?
- What designs/technologies have not been protected by them?

Have you taken steps to secure/protect your IP in the new market
- Have you filed trademarks for your brand/company name?
- Are your designs and technologies protected? How are they being protected?
Scenario 1 – introducing a new brand into SEA

- Brand "VEGO"
  - currently distributed in the EU market
  - vegan food product range

Veego

PH, VN

VEGO

PH

VEGO Max

MY

Veego

MY, TH, ID, SG
Checking the products/services listed in the trademark registration

<table>
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<tr>
<th>S/N</th>
<th>Class No.</th>
<th>Goods/Services</th>
<th>Class Status</th>
<th>Class Expiry Date</th>
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<td>1</td>
<td>29</td>
<td>Soya-based preparations; Eggs; Edible oils and fats; Vegetable-based snack foods; Prepared meals consisting principally of vegetables; Dairy products; Edible seeds; Edible nuts; Dairy-based beverages; Edible oils and fats; Vegetable-based snack foods; Prepared meals consisting principally of vegetables; Soya-based preparations; Processed legumes.</td>
<td>Registered</td>
<td>01/07/2030</td>
</tr>
<tr>
<td>2</td>
<td>30</td>
<td>Carbohydrate based preparations for foods; Bakery products; Snack foods prepared from grains; Noodle-based prepared meals; Rice-based prepared meals; Vinegar, sauces and other condiments; Rice; Noodles.</td>
<td>Registered</td>
<td>01/07/2030</td>
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Scenario 2 – EU (irrigation tech) company expanding into the Singapore market

<table>
<thead>
<tr>
<th>S/N</th>
<th>IP Type</th>
<th>Application No</th>
<th>Image</th>
<th>Title of Invention</th>
<th>International Patent Classification No.</th>
<th>Application Status</th>
<th>Filing Date</th>
<th>Lodgement Date</th>
<th>Applicant / Proprietor Name</th>
<th>Case No.</th>
<th>Abstract / Description / Claims</th>
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<tr>
<td>1</td>
<td>Patent</td>
<td>10202114228M</td>
<td></td>
<td>AN IRRIGATION SYSTEM AND METHOD</td>
<td>A01G 25/14; G05B 19/00</td>
<td>Pending (Published)</td>
<td>20/12/2021</td>
<td>20/12/2021</td>
<td>PANASONIC APPLIANCES R&amp;D CENTER SINGAPORE</td>
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<td>2</td>
<td>Patent</td>
<td>11202309464V</td>
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<td>IRRIGATION SYSTEM FOR A VERTICAL GROWTH TOWER</td>
<td>A01G 9/24; A01G 21/00</td>
<td>Pending (Published)</td>
<td>09/02/2021</td>
<td>30/06/2022</td>
<td>INTELLIGENT GROWTH SOLUTIONS LIMITED</td>
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<td>Patent</td>
<td>10201900732X</td>
<td></td>
<td>APPARATUS FOR GROWING PLANTS AND IRRIGATION APPARATUS OF THE APPARATUS FOR GROWING PLANTS</td>
<td></td>
<td>Pending (Published)</td>
<td>25/01/2019</td>
<td>25/01/2019</td>
<td>Agirution Systems GmbH</td>
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<td>4</td>
<td>Patent</td>
<td>11202040991U</td>
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<td>VERTICALLY MOUNTED CROPPING AND IRRIGATION SYSTEM</td>
<td>A01G 9/02; A01G 9/06; A01G 9/12</td>
<td>Pending (Published)</td>
<td>06/11/2018</td>
<td>05/06/2020</td>
<td>AGSTACK, INC.</td>
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<td></td>
<td>SUBTERRANEAN IRRIGATION SYSTEM.</td>
<td>A01G 25/04</td>
<td>Patent In Force</td>
<td>27/01/2018</td>
<td>20/01/2019</td>
<td>ELEMENTAL ENGINEERING AG</td>
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</table>
Secretion of heme-containing polypeptides filed by Impossible Foods Inc.

Countries that patents have been filed – CN, EP, PL, IT, RS, ES, SI, HU, DK, PT

Technology is free to use in South-East Asia (and other countries)

(51) International Patent Classification: Not classified
(21) International Application Number: PCT/US2014/055227
(22) International Filing Date: 11 September 2014 (11.09.2014)
(25) Filing Language: English
(26) Publication Language: English
(30) Priority Data:
61/876,676 11 September 2013 (11.09.2013) US
61/908,689 25 November 2013 (25.11.2013) US

(71) Applicant: IMPOSSIBLE FOODS INC. [US/US]; 525 Chesapeake Drive, Redwood City, California 94063 (US).


Published:

(54) Title: SECRETION OF HEME-CONTAINING POLYPEPTIDES
(57) Abstract: This disclosure provides for methods and compositions for the expression and secretion of heme-containing polypeptides.
IP Marketplaces

INNOVATION MARKETPLACE

TECH OFFERS
Discover new technologies by our partners

Registration
Create your free account to post Tech Offers or Tech Needs on our Innovation Marketplace, and receive our weekly Tech Alerts and newsletters.

https://www.ipi-singapore.org/
# Protecting your IP in Singapore

## Trademark
- **$380** per class
- Reduction to **$280** for pre-approved list of goods/services
- Continual protection, subject to renewal every 10 years

<table>
<thead>
<tr>
<th>Approx 10 - 12 months to registration</th>
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## Patent
- Filing fee **$170**
- Examination fee **$1,420 - $2,050**
- Grant fee from **$210**
- Valid for 20 years, subject to payment of annual renewal fee

<table>
<thead>
<tr>
<th>Typically 2.5 - 3.5 yrs but can be shortened to 6 months to grant</th>
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</table>

## Registered Designs
- **$200** per design
- Valid for 15 years subject to payment of renewal fees

<table>
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<tr>
<th>Approx 2 - 3 months to registration</th>
</tr>
</thead>
</table>

## Copyright
- Copyright subsists automatically for original work without registration
- Author’s lifetime + 70 years

<table>
<thead>
<tr>
<th>Approx 10 - 12 months to registration</th>
</tr>
</thead>
</table>

## Confidential Information / Trade Secrets
- Establish security controls (physical and tech) & policy
- NDAs, marking of confidential documents, restriction of access
- Contractual obligations
- As long as secrecy is maintained

<table>
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*Fees payable to IP Office. Does not include fee to engage IP professional*
4. Case Study
In 2021, Esco Aster had the world's first licensed commercial facility in Ayer Rajah Crescent to produce cell-cultured meat for Eat Just's Good Meat division.

A spokesman for Esco Aster said the company is working to get the Changi plant certified by the Singapore Food Agency (SFA).

It now produces small batches of cultivated chicken cells from an 80 sq m space in Ayer Rajah Crescent to help make chicken nuggets, fillets and satay skewers for Good Meat.

Partnership with Esco Aster marks Mosa Meat's global expansion as the company continues to scale production and works to achieve regulatory clearance in Europe and abroad.
Cultivated meat industry in Singapore

**Patents**
- SG 11201914083T (CULTURED MEAT)
- SG 11202305713P (3D-PRINTABLE SCAFFOLD)
- SG 11202303264U (SCAFFOLD SYSTEM)
- SG 11202303262Q (EDIBLE PROTEIN)

**IP portfolio of Aleph Farms in Singapore**

**Trademarks**
- ALEPH FARMS
- MEAT GROWERS
- ALEPH FARMS

**Copyright, trade secrets**
5. Takeaways
Multiple forms of IP rights are available to Agri-food tech businesses.
Speak to an IP professional during early stages of your business, and especially before entering any new markets.
Are there existing 3rd party IP rights that can obstruct your business such as blocking patents?
Determine which IP rights are relevant for protection in SEA and register them as soon as practicable.
Monitor for infringement once applications have been filed.
We want your feedback