The WIPO Toolkit

On New Product Development and Inventions in the Public Domain

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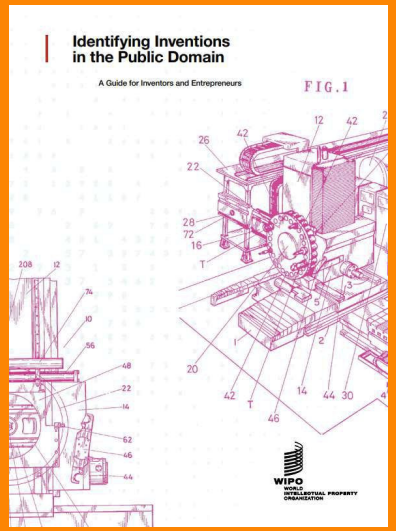
Origin story: an idea takes off

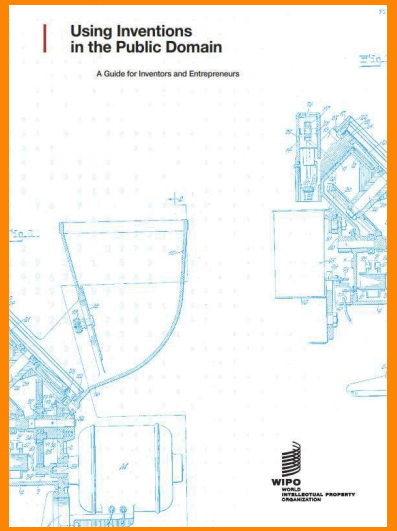
A complement to existing WIPO Publications (2020)

- Identifying Inventions in the Public Domain
- Using Inventions in the Public Domain

Inventions in the public domain are valuable assets

- Creating new products and services
- Improving existing products and services
- Fostering new innovation & IP
- Inspiring inventors, product designers, product developers, and entrepreneurs





Why did we make it?

Education teaches *concepts*

Training teaches *skills*

- Core concepts through engaging videos
- Step-by-step instructions with resources
- Expertise of professional product developers
- Practice (exercises) with concrete & realistic scenarios

What we have

A multimodal, modular, flexible training program in New Product Development (NPD)

Each Tool has three core self-learning features

- Videos which introduce core concepts
- Tool description that explains how the tool works
- Example that demonstrates tasks

Two optional elements for hybrid learning model

- Live training seminars (recorded and posted)
- Instructor-led exercises (which can be made a self-learning feature)

Accessible, Practical, Flexible

- We wanted to design a program with a new subject area for WIPO that was based on **Identifying & Using Inventions in the Public Domain** that could serve under-developed economies with a desire to improve their innovation ecosystem
- The hybrid model emphasizes **accessibility** and **flexibility**
- We also wanted all of the Tools to teach practical skills beyond the NPD process
- For future users, how can the Toolkit encourage both self-learning and sharable information through peer communities?

Why the Toolkit is important for you

IP is only a *Business Asset* if it can be used to make and/or use products and services which can be sold.

Stage-Gates® help decision making

Idea > Screen > Design > Development > Test > Launch > Post-launch

15 NPD Tools

- Project Charter
- Action Plan
- Voice of the Customer
- Competitive Advantage
- Freedom to Operate
- Value Chain
- SWOT Analysis
- Business Model Canvas
- Intellectual Property Audit
- Technology Forecasting
- Life Cycle Risk Reduction
- Portfolio Construction
- TRIZ
- Gate Progress Review
- Net Present Value

Idea > Screen > Design > Development > Test > Launch > Post-launch

Learning NPD develops absorptive capacity in companies and organizations

Teaches Relevant Skills

- IP Management
- Project Management
- Product Management
- Risk Management
- Market Research
- Technology Forecasting
- Business Planning
- Problem Solving

Modules

- Intellectual Property Audit, Freedom to Operate
- Project Charter, Action Plan, Gate Progress Review
- Portfolio Construction
- Value Chain, Life Cycle Risk Reduction
- Voice of the Customer, Competitive Advantage
- Technology Forecasting
- Business Model Canvas, NPV
- SWOT Analysis, TRIZ

Toolkit Components

All Tools available online and by download

Learner's Guide:

Comprehensive guide that explains the Toolkit, how it works, and how to use it

Introduction Video:

An international collaboration between WIPO, Foresight, and Lambda Films

Tool Description:

Instruction manual that walks the user through the tool

Tool Example:

A completed spreadsheet using a Biofuel example to demonstrate how the tool works (and how it looks when done)

Tool:

Excel spreadsheet that performs tool function

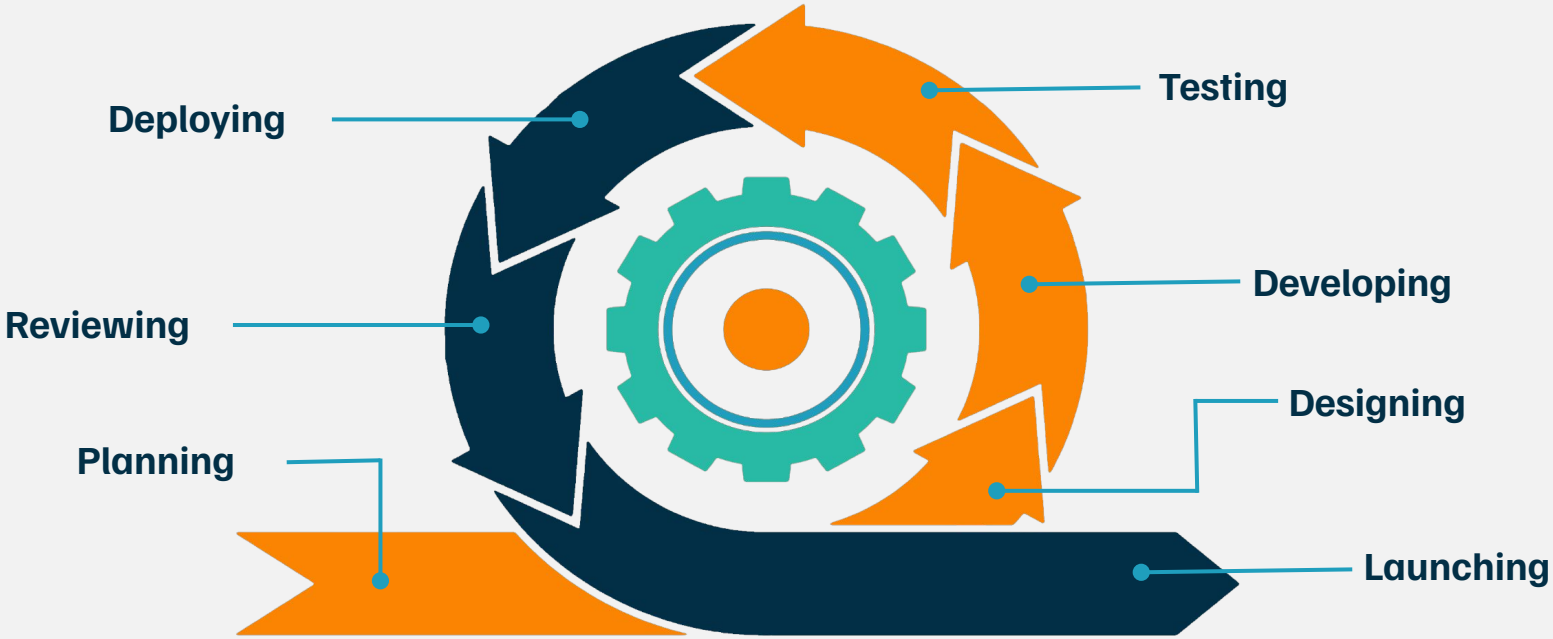
Let’s take a look

Toolkit on New Product Development and Inventions in the Public Domain

NPD in the public domain: a case study

- A product ready for launch, made using NPD
  - Agile, Stage-Gate® Approach
  - KPIs - Three Rights of NPD
    - Right Product
    - Right Innovations
    - Right Climate, Culture and Organization

Stage-Gates® with Agile Development



Software Testing Models - Qman

Three-cycle Agile Development

ALPHA PROTOTYPE

- Is not entirely functional and used for testing purposes
- Is close to the production version
  Uses simplified production processes
- Includes scrutiny and an assessment of all features, functions, and subsystems of whether the product works as intended
- Consists of verifying of systems integration and reviewing the technology performance

BETA PROTOTYPE

- Represents a fully functional version
- Assesses reliability and is used to test the product in its actual usage environment with customers, assemblers, parts manufacturers, and component suppliers
- Uses actual manufacturing facilities to make the products
- Allows a side analysis of the requirements and adjustments needed during production process

PRE-PRODUCTION PROTOTYPE

- Is the final physical model that specifies all the elements of the design and specifications of part production and components before the manufacturing phase
- Includes confirming necessary technical requirements and specifications of the design
- Includes validating design for assembly and manufacturing with attention to production processes, assembly times, parts integration and outsourcing, balance lines, and other adjustments

Many thanks to our testing partners in Colombia, South Africa, Malaysia, and The Philippines!

- We conducted NPD through the training programs
- Evaluating challenges after after each pilot test: Colombia, South Africa, Malaysia, and The Philippines
- Constantly improving the process through feedback and adaptive practices
- Made improvements such as restructuring sessions and revising exercises
  - Exercises adapted to the participants, cultural context, examples, etc.
  - Focused lectures to present high-level concepts, expanding on the videos
- The challenge with hybrid education is always how to get the most engagement
  - Busy professionals balancing work responsibilities with participation
- Involving stakeholders before moving to the next stage

The NPD Toolkit is already being used

By the Research and Innovation Foundation (RIF) of the Republic of Cyprus

- Training students
- Training startups and small companies
- Training mid-size and large companies

“We analyzed firms’ product and process innovations and whether they are influenced by their collaborations with science system partners, such as universities and other higher educational institutions, government research organizations, and other firms in the enterprise group. Firms’ R&D collaborations with these partners are known to be significant sources of firm level innovations. For countries with moderate innovation potential, such as the Czech Republic and Hungary, the constant and sustained interactions among these actors can help to improve productivity and general innovation performances. … Collaborations with other enterprises, universities, and government research institutions positively impacted on their probabilities to introduce onto the market new and improved goods as well as services.”

Do Firms R&D Collaborations with the Science System and Enterprise Group Partners Stimulate Their Product and Process Innovations? Samuel Amponsah Odei and JanStejska, (40) Do Firms R&D Collaborations with the Science System and Enterprise Group Partners Stimulate Their Product and Process Innovations | Samuel A M PONSAHOdei-Academia.edu

Using the Toolkit to learn how to do simple NPD helps companies integrate into their national economic and research/innovation ecosystems by using IP in a way that allows them to thrive.

Using NPD helps WIPO create cost-efficient, effective programs and training to better meet its mission.

Using **inventions in the public domain** helps stimulate creativity and economic development around the world.

Closing Thoughts

If Opportunity doesn't knock, build a door.

Milton Berle

Nothing happens without a sale.

David Speser

A well-defined imaginations is the source of great deeds.

Chinese Fortune Cookie

It is fun to have fun, but you have to know how.

The Cat in the Hat
Dr. Suess

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