Innovation Roadmap for Engineers
Setting up a Company

You can set up a limited company at any point along your innovation journey, but if you haven’t done it yet, now is the time. A limited company will:

- Help straighten out a clear ownership structure such as the distribution of company shares
- Protect you from personal liability in the event that things don’t pan out

Step 1: You’ve Got an Idea - Now What?

Step 2: Patents and Potential

Step 3: Applying for a Patent

Step 4: Building a Prototype

Step 5: Prototype Iteration

Step 6: Production and Commercialisation
Step 1
You've Got an Idea - Now What?

Let's say you have a potentially great idea or an innovation that you believe could benefit the world. This is the time to narrow down your idea, so you have a clear plan of action. Here are ten steps to help you:

1. Make your vision visible by sketching it out to help clarify your thinking.
2. Brainstorm possible options to see if they can be improved or expanded.
3. Research existing technologies to see if the problem has already been solved.
4. Clearly articulate your idea to make sure others understand it.
5. Create a prototype to test the usability of your idea.
6. Test your prototype to see if it works as expected.
7. Present your idea or prototype to get feedback from others.
8. Make adjustments to your idea or prototype based on feedback.
9. Continue refining your idea or prototype until it is ready for mass production.
10. Share your idea or prototype with others to see if they are interested in helping you bring it to market.
Step 2: Patents and Potential

1. **Identify Your Ideas:** Before you start thinking about potential patents, it's important to identify your ideas. This involves brainstorming and noting down all the possible ideas that you have.

2. **Research Prior Art:** Once you have identified your ideas, the next step is to research prior art. This involves searching for any existing patents or publications that are similar to your ideas.

3. **Patentability Assessment:** After researching prior art, the next step is to perform a patentability assessment. This involves determining whether your ideas are novel, non-obvious, and useful.

4. **Patent Filing:** If your ideas pass the patentability assessment, the next step is to file a patent application. This involves working with a patent attorney or agent to prepare and file the application.

5. **Review and Examination:** Once the patent application is filed, it goes through a review and examination process. This involves the patent office checking the application to ensure that it meets all the requirements.

6. **Publication and Issuance:** If the application is accepted, it will be published. This means that the patent will be made public and others will be able to see it. If the patent is issued, it will grant the inventor exclusive rights to make, use, and sell the invention.

7. **Maintenance:** Once the patent is issued, it needs to be maintained. This involves paying annual fees to keep the patent in force.

8. **Infringement:** If others use your invention without your permission, you may need to take legal action to enforce your patent.

9. **Licensing:** You can also choose to license your patent to others, allowing them to use your invention in exchange for a fee.

10. **Sale:** Finally, you may choose to sell your patent to another company or individual.

By following these steps, you can increase the chances of successfully patenting your ideas and protecting your inventions.
Step 3 Applying for a Patent

Once you've identified the technology who have invested and how the patent you need on your invention is quickly possible. They might be less abrupt when deciding which ones are best. An example might be that a company is developing a new type of software. As an alternative, this new technology could improve the current market or have significant implications for long-term growth.
Step 4
Building a Prototype

Once you've completed your research and analysis, it's time to create a prototype. A prototype is a working model or representation of your product before it's fully developed. Prototyping allows you to test your ideas and make changes before embarking on the full development process.

Prototype Development
- Define your goals for the prototype
- Choose a design approach
- Select the appropriate tools and technologies
- Develop the prototype

Incorporate feedback from users and stakeholders to refine your prototype. This iterative process will help you identify any shortcomings and refine your product to meet the needs of your target audience.
Step 5
Prototype Iteration

When you have your prototype built after your initial application, take your prototype to the top decision makers in your organization, to the customers or potential customers, to the people who are funding your project, and to the government. The prototype should be of a type that is easy to understand and receive positive feedback from customers and end users. You can then build and test your prototype. In this step, you should also invest in further analysis and design iterations. This is the final step in the process.

Prototype Testing

A new product is tested in a laboratory. It is evaluated and a performance is evaluated. It is then tested again and development is repeated. Then the design and development is tested and the product is tested again. This process is repeated until the product is ready for market.
Step 6: Production and Commercialisation

Now you’re getting close to understanding how to take your idea to the next stage. You may already have been through some or all of the previous steps, or you may be starting at the beginning. Whatever your situation, it’s time to learn and then start planning.

Production

A step-by-step guide to getting your product into the market.

1. **Market Research**
   - Identify your target market.
   - Conduct market analysis.

2. **Product Development**
   - Refine your product.
   - Address any issues that were identified during market research.

3. **Manufacturing**
   - Source materials.
   - Commission production.

4. **Logistics**
   - Plan delivery and distribution.
   - Consider packaging.

5. **Launch Strategy**
   - Plan the launch.
   - Develop a marketing plan.

6. **Distribute**
   - Choose distribution channels.
   - Establish partnerships.

7. **After Sales Support**
   - Provide customer service.
   - Monitor feedback.

Program a Business Plan

- **Marketing Plan**
  - Identify target market.
  - Develop a marketing strategy.

- **Sales Plan**
  - Identify sales channels.
  - Plan sales activities.

- **Distribution Plan**
  - Establish distribution networks.
  - Set up distribution centers.

- **Financial Plan**
  - Estimate costs.
  - Plan revenue streams.

Credibility:
- **Branding**
  - Develop a strong brand identity.
  - Reinforce brand image through consistent messaging.

Entrepreneurial:
- **Innovation**
  - Continuously innovate and adapt.
  - Stay ahead of market trends.

Launch:
- **Marketing Campaign**
  - Create a buzz.
  - Generate interest.

- **Product Launch Event**
  - Host a launch event.
  - Invite key stakeholders.

- **Social Media Campaign**
  - Utilize social media for promotion.
  - Monitor and engage with followers.

- **Customer Feedback**
  - Collect customer feedback.
  - Use feedback to improve product.

Consider the Implications of Ethical Business Practice
Innovation Roadmap for Engineers

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