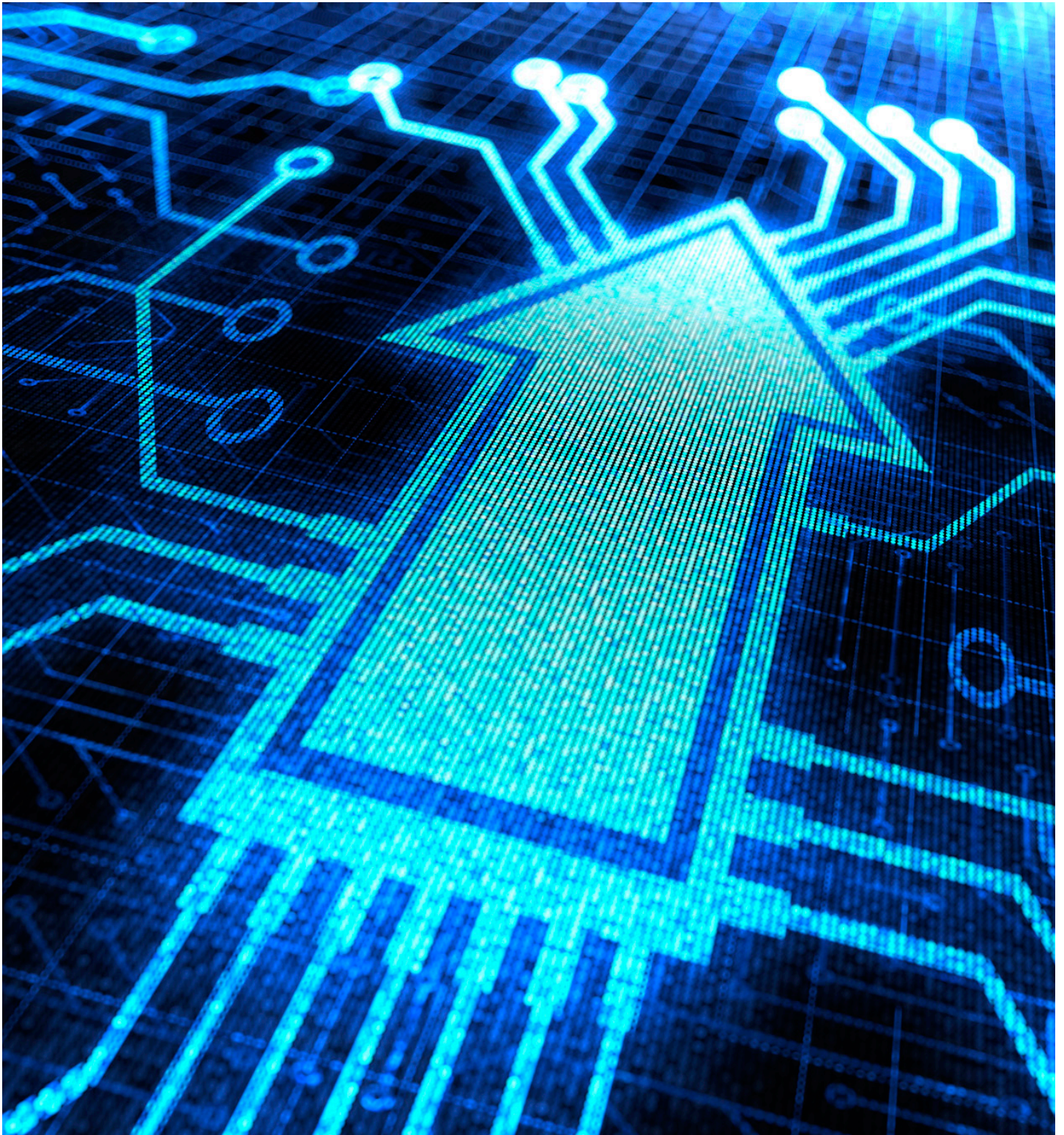


## Creating roadmaps for growth



## Introduction

Many organizations are interested in improving their ability to identify new opportunities for growth and to invest strategically to achieve business goals.

The mechanism used to help with this process is often called 'roadmapping', a management approach that aligns technological capability to product and business plans, so that business strategy and technology development advance in tandem.

The traditional approach to roadmapping is through a series of inhouse workshops that create simple visualizations of the market, product, technology and R&D plans. For instance, IfM's 'T-Plan' process is a commonly used example of this kind of framework.

However, in our experience of working with leading multinational organisations, a single framework or tool is not adequate to develop a coherent strategy. All too often roadmaps generated in this way are fractured, inward looking, not aligned and difficult to integrate.

Without a wider industry view or technology perspective, internal workshops rarely move a company beyond what it already knows and often results in a simple re-justification of current activities.

This inward looking approach is unable to identify new innovations or potential disruptions beyond the current field of knowledge, or to generate sufficient commitment for sustainable growth.

Instead, we have found that developing a technology plan is a key element of success. Although the Stage-Gate® (product) portfolio embodies the near-term growth investments for any business, a technology plan can form the basis for investment decisions for future growth.

In line with the growing trend for open innovation, it is important to ensure that external expertise informs the technology planning. This provides a rich insight into technologies that may be in a more advanced stage in other sectors and avoids R&D programs that are too inwardly focused.

Coherent plans can therefore have a huge positive impact on the effectiveness of external partnerships, organizational and process decisions, R&D strategy, and product planning.

## The benefits

### A structured approach to technology planning

There are many benefits to investing in well thought-through growth opportunities, these include:

- ★ Improved organizational alignment and decision-making. Growth roadmaps require strong alignment across organizations as well as commitment over timescales greater than the current budget cycle. Improving these aspects of your growth planning will have a significant impact on the return on your investment.
- ★ A sustainable growth plan. Sustainable growth is the ultimate prize for companies who are looking to build increased shareholder returns and new opportunities. Having a coherent plan or roadmap helps to build commitment for internal stakeholders and enhances the growth 'story' that engages external investors.
- ★ Building capabilities for significant commercial and lasting commercial advantage. Building capabilities takes time, the future perspective of a roadmap or technology plan is a critical element in helping build the capabilities required to win.
- ★ Integrating external expertise and technology with current capabilities and knowledge-base. A roadmap helps to identify and agree priorities for internal and external technology know-how; this in turn helps to avoid 'not invented here' attitudes, build more fruitful partnerships, and set measurable targets for collaboration.

So what is a technology plan and how can one be constructed in a form that is suitable and usable for practical decision-making?

## The aims

### Why create an effective roadmap?

First of all, it is worth considering why roadmaps are beneficial for a business. Each company will have its own circumstance, but typical aims include the following:

- ★ Align technology 'acquisition' with product roadmap, and predicted market needs
- ★ Create basis for a more strategic dialogue with suppliers and potential suppliers
- ★ Bridge the gulf between strategic goals and the technology 'detail'
- ★ Develop new insights/innovations based on matching technology possibilities and commercial needs
- ★ Deploy limited resources to invest in building a growth pipeline
- ★ Try and predict (and avoid) disruption – possibly even new entrants from other sectors
- ★ Identify and promote technology platforms

Even with the best of intentions, achieving any of the aims outlined above requires significant effort.

Although the words 'roadmap' and 'plan' are frequently used interchangeably, a roadmap is a tool, which shows how the future will evolve. Whereas a technology plan shows how it can be achieved.

The roadmap may show a multi-layered representation of market trends, product launches and technology; while useful in some ways, this is not particularly good at showing priorities, or for that matter, supporting forward-thinking innovation, or alternative pathways for growth.

So making a success of a roadmap for growth requires more than a single tool, process, or, indeed, wall-chart. It requires the ability to:

- ★ Understand consumer needs, insights, business ambitions and commercial problems to be solved
- ★ Articulate new opportunities to complement and build new areas of growth
- ★ Connect these needs to a map of enabling technologies – building from internal know-how and external expertise
- ★ Identify potential innovations/disruptions that may be new opportunities
- ★ Relate these enabling technologies to a series of future growth scenarios
- ★ Create concrete implementation plans that are supported across the business

Achieving these aims requires organizations to bring together commercial needs and priorities, with a broad technology portfolio. The results can then be placed in a planning framework that motivates, engages and commits to concrete future growth programs. This is a technology plan.

# Planning

## Improved technology planning

The ability to build a roadmap – or technology plan – is now an expectation for many executive teams. There are many tools and techniques available to undertake this process. This can be confusing for teams that are set the task of identifying and delivering growth and technology development opportunities.

The executive leadership of organizations should ask themselves the following questions:

**Do we have an appropriate toolset, and are our teams adequately equipped to do this work?**

**What external skills should we engage to help our colleagues deliver compelling growth propositions?**

## Approaches to developing a technology plan

nu Angle's approach to developing technology plans is tailored according to client situation and combines a blend of proven good practice, together with proprietary tools and techniques that nu Angle has developed over a number of years.

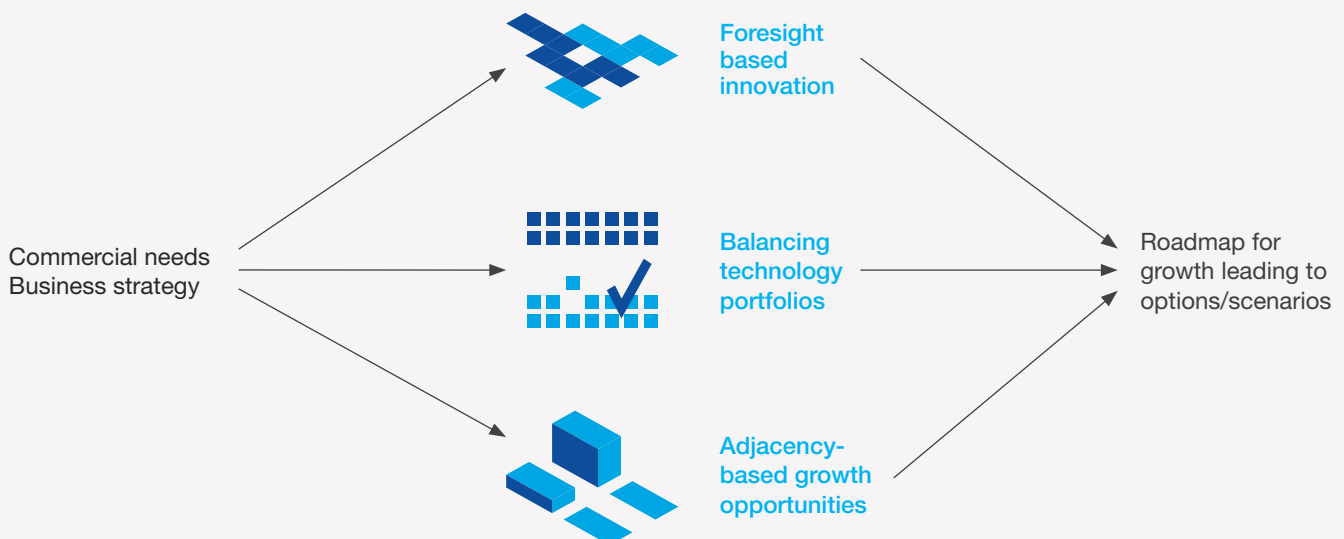
This has included time spent reviewing and deploying tools drawn from the 11 schools of strategy (Mintzberg), technology management approaches, front-end innovation, and downstream delivery requirements.

As a result nu Angle has created three primary tools that support the development of a coherent technology plan:

1. Broad, balancing portfolio approach that identifies technology priorities, gaps and opportunities for external technology partnerships
2. Foresight-based approach that identifies innovative combinations of future trends, emerging technology and potential disruptions
3. Adjacency-based growth approach that establishes new opportunities for business growth together with associated technology/innovation-based plans

Each of these tools aims to build from current commercial priorities and establish technology and innovation-based growth investment plans.

Figure 1: nu Angle has developed three approaches to support technology planning



## Strategic goals

Technology plans that are rooted in commercial priorities, built with cross-functional commitment and linked to realistic plans for technology acquisition will deliver concrete strategic goals, these include:

- ★ Connect commercial and technology agendas across the business
- ★ Identify priorities for growth by combining the perspectives of commercial needs, technology possibilities
- ★ Develop innovation possibilities based on a deep connection of desired commercial direction and combinations of current and future technologies
- ★ Create resourced plans for investment in technology, innovation and new growth opportunities – in other words, a roadmap for growth

Figure 2: **Creating successful commercial technology plans**

### Portfolio balancing

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- ★ Context – useful for handling a broad set of technologies or across single or multiple Strategic Business Units (SBU)
- ★ Types of decisions supported:
  - \_ ‘Make or buy’ sourcing decisions
  - \_ Gaps in pipeline of technologies – discipline-based, and commercial needs-based
  - \_ Future capability requirements
  - \_ Leader or follower positioning
  - \_ Strategic alliances to be retained, developed, or wound down
- ★ Typically relevant to 0 – 5 year timescale

### Foresight-led innovation

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- ★ Context – relevant to a more narrow focus within an SBU requiring deep insights
- ★ Types of decision supported:
  - \_ Technology combinations incremental/breakout/breakthrough
  - \_ IP analysis and strategy supporting technology foresight
  - \_ Model of investment for leader/follower/specific strategy-based approaches to growth
  - \_ External partnerships
- ★ Typically relevant to 0 – 10 year timescale

### Adjacency-based growth

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- ★ Context – useful for identifying new growth opportunities, within, between, or beyond current core businesses and markets
- ★ Types of decisions supported:
  - \_ ‘Make or buy’ sourcing decisions
  - \_ Major growth adjacencies and opportunities for innovation within them
  - \_ Gaps in pipeline of technologies – discipline-based, and commercial needs-based
  - \_ IP analysis and strategy supporting new growth opportunities
  - \_ Future capability requirements
- ★ Typically relevant to 2 – 10 year timescale

# Application

## Getting started

We have developed some highly specific diagnostic tools to help clients work out how to start and which approaches to use.

The tools assess good practice in the organization and identify target areas for improvement. Each audit asks a mix of operational and strategic questions, and helps clients to decide:

1. Which approach is most relevant to them and why
2. What gaps exist in their current growth toolset that need addressing
3. The most cost-effective approach to identify new growth opportunities

This initial intervention is rapid and provides an outline for how to best address the requirement for a 'roadmap for growth'.

Once requirements are known, the best approach to developing a technology plan can be agreed.

## Figure 3: Examples of how the approaches have been applied

### Portfolio-based growth

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A safety product business looking for market expansion:

We developed technology portfolios for several of the business units within the safety products business.

The portfolios enabled a prioritized approach for technology acquisition. This approach supported focused IP development, set out a plan for external technology acquisition and partnerships, and provided options for internal technology development plans.

### Foresight-based growth

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Securing support for technology investment:

We worked alongside a client team to build technology roadmaps in a couple of key areas with the support of external experts. These roadmaps helped the client to identify future investment direction, with many good opportunities identified.

The technology plan gained a high level of support from the executive team and as a result near-term opportunities in development were identified and IP is now being filed.

### Adjacency-based growth

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Building capability within internal teams:

We worked with internal teams to show how they could identify new strategic arenas where growth would be possible and relevant to the business objectives.

Following training, the teams undertook research (with nu Angle coaching support), leading to identification of several candidates.

Two priority strategic arenas were selected, and within these, the teams identified a series of growth platform opportunities, including innovation opportunities and key challenges where innovation would be highly valuable.

## Conclusions

### Further development of tools

At nu Angle, we have spent many years optimizing the processes and tools in each of these three approaches. We have developed bespoke Excel implementations for the portfolio balancing and foresight-based approaches. These tools maximize the time spent on the crucial, value-adding elements for creating a growth plan and move many of the essential 'housekeeping' functions into the background.

In 2015, working with our partner Innovation Framework Technology, we will have web-based implementations for both tools as well. This new version of our tools will provide:

- ★ Improved knowledge asset management
- ★ Enhanced functionality for remote working
- ★ Improved incorporation of external subject matter expertise into client programs
- ★ Reduced requirement for face-to-face working sessions – which can be expensive for global organizations
- ★ Improved downstream investment planning
- ★ Enhanced integration into Stage-Gate® R&D processes

### Next steps

Delivering well-structured roadmaps for growth requires analytical thinking, creativity, commitment to implementation, and the ability to make good choices. Combining these skills within an appropriate framework leads to a good roadmap that in turn leads to committed investment decisions. A systematic approach helps to blend structure, tools, process, creativity and careful planning, and forms a solid plan for growth.



## About us



### About the author

Dr Peter Allen started his working life as a research physicist. His early industrial career involved working on the early stages of advanced solar cells. For the last 25 years he has occupied leadership positions in leading technology, innovation and strategy consulting firms – namely Coopers & Lybrand, Sagentia, and the Monitor Group – before forming nu Angle with Steve Bone.

Peter is a key contributor to nu Angle's multi-faceted toolkit for identifying, prioritizing, and evaluating key technologies and external solutions to deliver against commercial needs. He has been exposed to a wide range of industry sectors and technologies: medical devices, fast moving consumer goods, food & drink, rail, automotive, and government R&D labs. He has worked with teams across the globe in order to deliver innovation-led growth – leading, facilitating and coaching teams to radically improved results.

### About nu Angle

nu Angle helps clients capture real value from innovation. Since it was founded by Dr Steve Bone and Dr Peter Allen, nu Angle has established an enviable international reputation for excellence.

A core team of experienced consultants is supported by a virtual network of technology specialists. This offers the agility to create a bespoke team of industry experts for each client, reducing overheads and giving clients access to the insights of international experts. This includes access to relevant technology as part of an open innovation program.

nu Angle is the most experienced single group of technology and innovation management specialists in Europe; bringing together over 150 years accumulated experience of helping clients grow through innovation.

nu Angle believes in creating lasting value. Our passion to share capability and transfer it to client teams means that clients continue to enjoy transformative success far beyond our initial engagements.

### nu Angle specializes in helping clients to:

- ★ Connect brand direction, ideas, and technology for sustainable innovation
- ★ Decide technology direction aligned with commercial priorities
- ★ Implement processes and systems that help deliver on choices
- ★ Create value from ideas and innovation.
- ★ Build client capability around technology and innovation management.

### Services offered by nu Angle include the following

- ★ Innovation and technology management
- ★ Innovation growth platforms
- ★ Technology road mapping
- ★ R&D strategy – analysis and design
- ★ Innovation audit.
- ★ Foresight and technology watch.



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