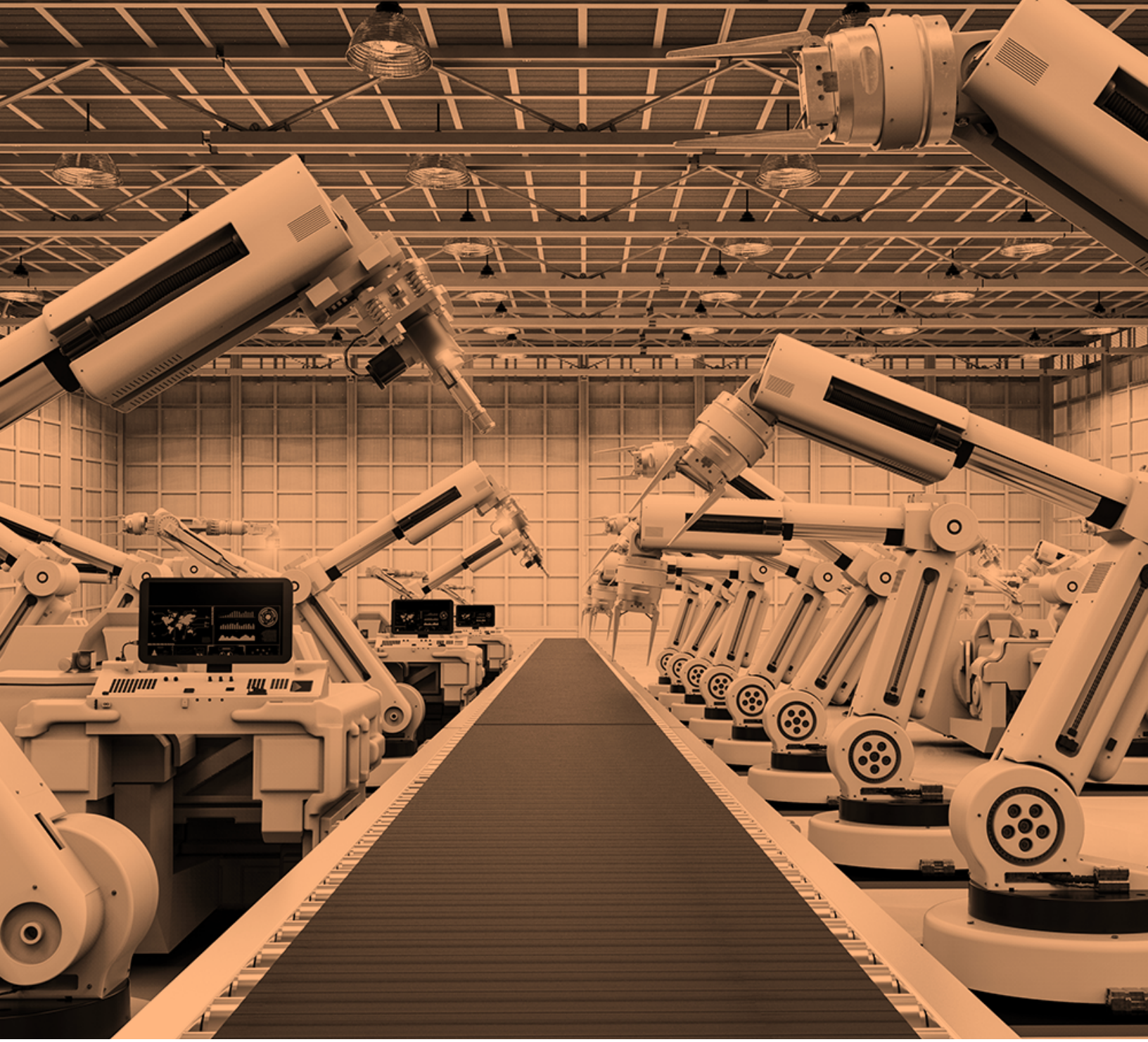


A SUPPLYFRAME WHITEPAPER

NPI SOURCING IN THE DATA AGE

findchips PRO

INTRODUCTION

Launching a new product is a complex project that incorporates numerous components and subassemblies, and involves extensive collaborations across an organization. Today, higher levels of global competition make it critical for businesses to get to market faster than ever before.

Literature on making and marketing new products have extensively covered some of the pitfalls associated with the NPI process. However, most of the improvement and methodologies suggested in these works tend to cover specific engineering challenges in the NPI flow, such as project management, design for manufacturing, quality assurance, and compliance. Very little has been said about designing for sourcing or scaling production levels seamlessly following a successful prototyping phase.

The reality is, only a fraction of new products get successfully introduced to the market.

For most, failure happens somewhere between the ideation stage and the launch into the physical world.

American research firm Booz, Allen and Hamilton estimates that the chance of failure of a new product introduction on the consumer market is as high as 80%. In addition, Michael Keer, CEO of PRG, a consortium of Silicon Valley experts, believes that “most companies’ NPI processes fail due to a few common mistakes”.

Initial product designs often overlook several product aspects that can cause real-world problems, such as obsolete, unavailable or risky components, and unrealistic costs.

This whitepaper will explore some of the sourcing and procurement challenges embedded in the NPI process, and solutions to identify bottlenecks to avoid common pitfalls on the road to product launch.

NEED FOR SPEED

To launch a new product in today's aggressive markets, a company needs to make the most of every advantage it can get in order to stay ahead of schedules and the competition. Ensuring BOM integrity as early as the design stage and moving to quoting with confidence in a components list is too often neglected as a way to expedite new product introductions.

Access to critical early stage sourcing information has traditionally been an obstacle for many organizations.

Typically, the initial focus during the NPI process is set on designing a functional prototype. However, if this prototype cannot be sourced or contains risky parts, it may need to go back to engineering and require a redesign before it can even be tested.

Getting new products to market faster is a priority for 52% of companies.

Source: LNS Research & Cisco

Going through a round of emails and phone calls asking for inventory availability and pricing for a list of components is an important step when aiming for large production volumes.

However, putting the NPI process on hold for a few days at the prototyping stage when only a few dozen PCBs are needed is very counterproductive. **Engineers and sourcing professionals need to be able to immediately identify which suppliers have their components available and procure the prototyping BOM overnight.**

This first analysis is also designed to build BOM confidence. If a component is not readily available at a low volume, eats up too much of the allocated budget, or returns high risk alerts, it is worth adjusting the design and/or finding an alternative component early.

Adding a layer of market input to early manufacturing outputs eliminates the possibility of building a product that will not be sourceable in its current version.

Depending on the industry vertical, designing with the right parts from day one can shave up to an entire month off the time it takes a company to go from concept to ramp-to-volume manufacturing.

COMMON NPI CHALLENGES

In the real world, the NPI sourcing process starts with a list of parts or a BOM. It is the start of a race against the stakeholder's timeline and the overall budget.

As mentioned above, the first time-consuming issue to deal with is the quoting loop. Suppliers often put production quotes at the top of their pile. Production quotes comprise larger volumes, more extensive documentation and a scheduling forecast, whereas prototyping quotes tend not to be dealt with as urgently. At this stage, it is critical to skip the few days (sometimes weeks) of phone calls and emails to simply identify which suppliers have inventory.

Numerous issues can occur from this point in the timeline. If sourcing realizes that a component from the BOM is out of stock across distribution, it needs to circle back with engineering and look for another part matching form, fit and function.

In the event that no alternative matches the needed criteria, the board may need to go through a costly and time consuming redesign.

Allowing engineering and sourcing departments to pass the very first BOM through a sanity check is a critical step. Identifying issues at this stage needs to take seconds, not days.



Another aspect that needs to be quickly identified early on is the overall price estimate. There is absolutely no value in ordering prototyping boards that are far above the overall budget. The amount of future work required to bring the cost down by replacing multiple parts while remaining functional would be tremendous, with a very limited chance of success.

Identifying the highest cost-drivers in an early BOM allows the team to course correct the part selection and prevents the project from moving forward with unrealistic budgetary pricing. **It is much cheaper and less painful in the long run to get your cost down while incorporating DFM principles during this engineering phase.**

Looking beyond the prototyping phase, it is important for sourcing to identify red flags on components that could cause problems down the line.

If some parts have shown great levels of inventory volatility or high pricing fluctuations in the recent past, it is something that needs to be taken into account during part selection, as it could break the production chain in the months to come.

Getting a new product successfully into mass production, manufactured on time without compromising quality at a reasonable cost, is definitely a considerable challenge.

The cost of fixing issues at various stages of the new product development life cycle is very well known and widely documented. It's a classic hockey stick shaped graph that marketing and sales departments would die for as a profit report, but sadly in this case, it could mean the death of a small company, or huge financial losses for larger organizations.

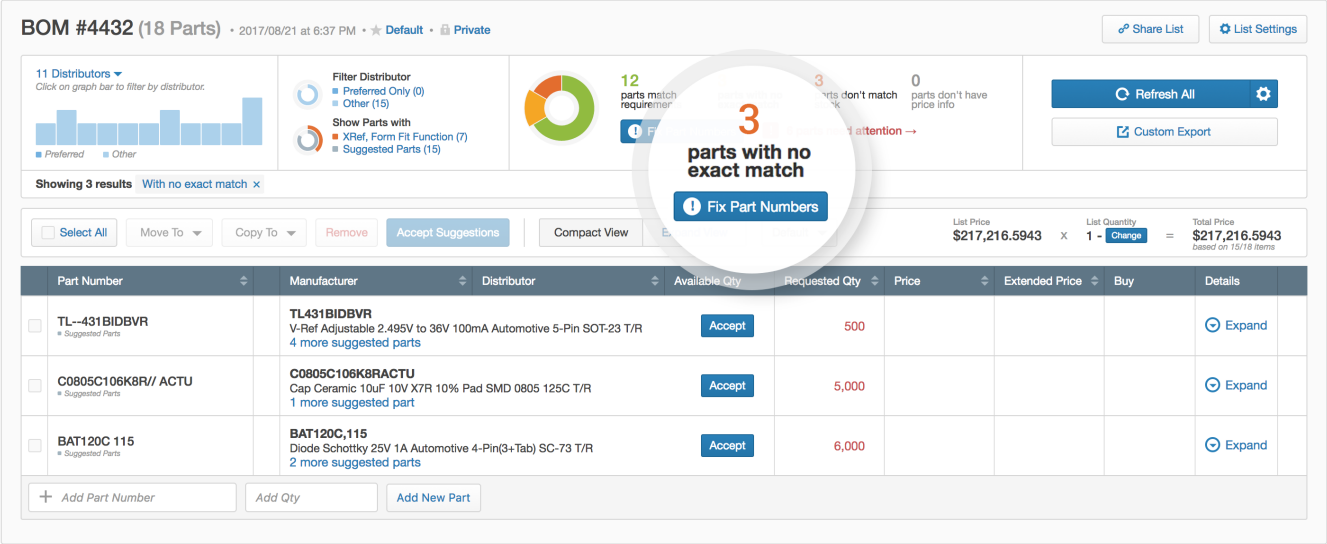
GETTING IT RIGHT THE FIRST TIME: INTRODUCING FINDCHIPS PRO

Findchips Pro is designed to speed up the NPI process by giving engineering and sourcing departments access to critical market data, and providing accurate answers to critical questions at the prototyping stage.

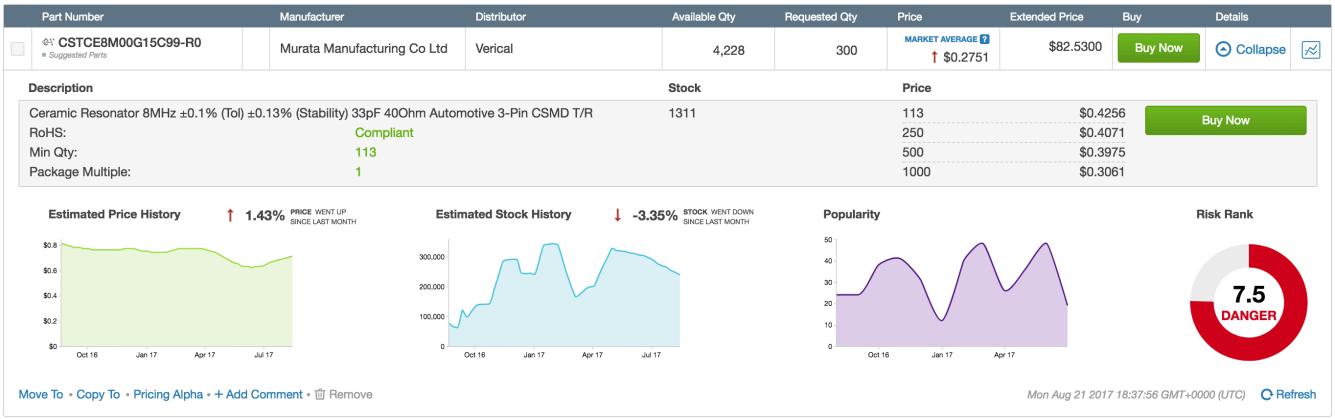
Eliminate risk and build BOM confidence

Upon uploading a BOM, Findchips Pro immediately allows you to check the integrity and viability of your BOM.

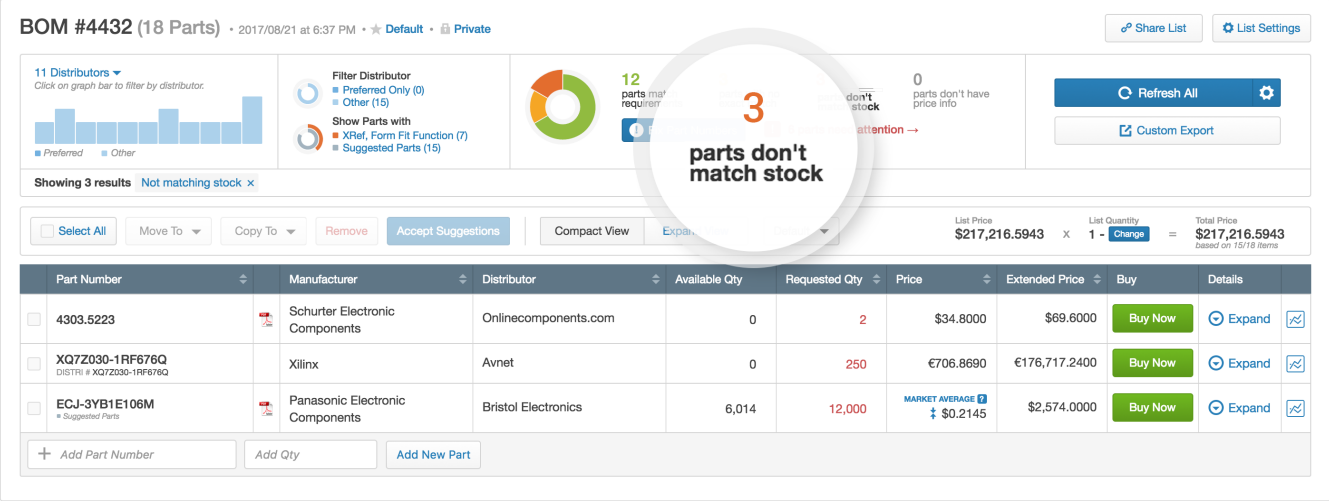
Clean up your BOM and immediately identify bad part numbers



Eliminate high-risk components that are likely to cause issues during production



Eliminate unavailable components that can't be sourced at a given time and prevent potential shortage issues



Design for Cost (DFC)

Since up to 70% of production costs can be attributed to raw materials, it is especially important to identify which parts are the main cost drivers in a BOM and accurately estimate budgetary pricing to know where you stand against your overall budget.

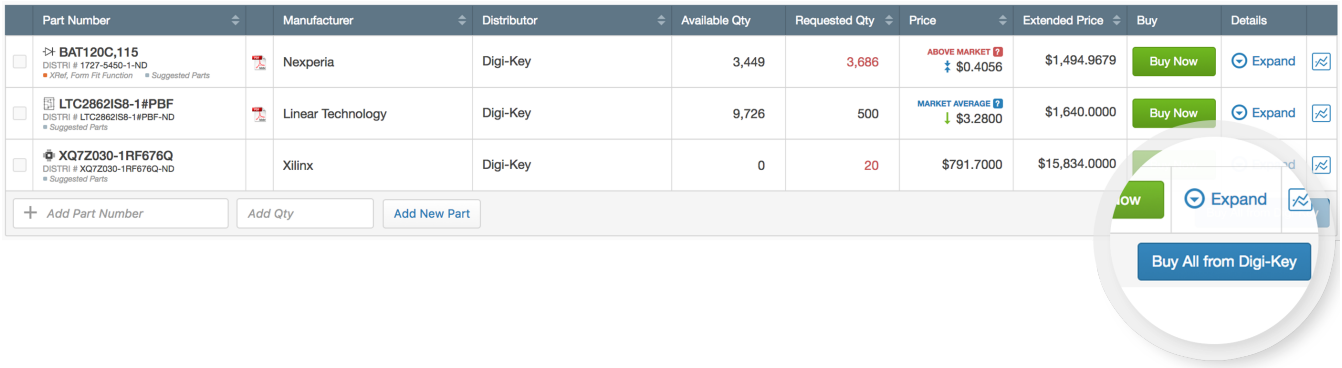
When designing for cost, the driving force of the design process is not just delivering a quality product, but a quality product that will drive down target costs to a point where they can be effectively managed and generate maximum profits for the organization.



Buy NPI components directly from your sourcing platform

Findchips Pro bridges the gap between information and action and gives you the opportunity to move quickly from research and analysis to ordering components.

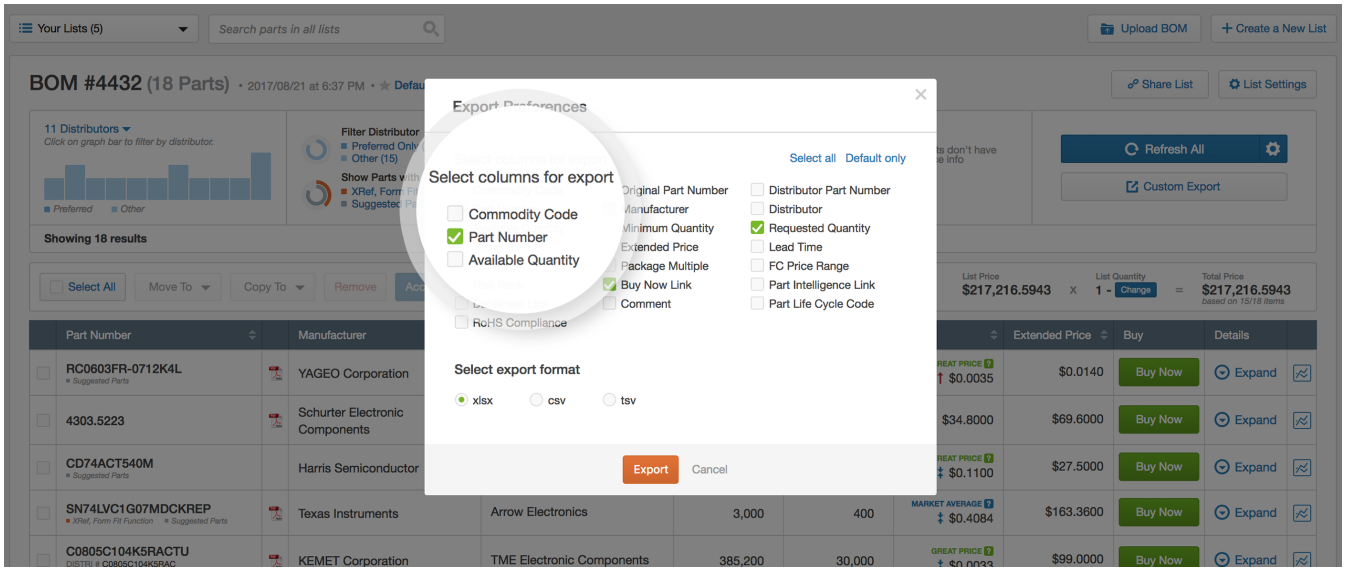
To speed up the sourcing process, it allows you to order multiple parts from the same supplier with a single click.



Collaboration utilities

Every company has adopted different collaboration processes. Findchips Pro offers new ways for stakeholders to work together. Use Findchips Pro to enrich a BOM by loading it into the software and export your custom data at any point in time .

Or simply invite team members and partners to collaborate directly from your Findchips Pro lists, make changes, and document your components



THE AGE OF REAL-TIME DATA

Most of the component research activity now happens online - from early- stage part discovery and parametric data lookup to distributor selection and procurement.

An aggregate view of this activity provides unique insights into component performance and future market demand.

Unlike most other tools in the electronics industry, FindchipsPro isn't limited to just indexing and organizing static product data. We are also in the unique position to analyze billions of market interactions across our platform to distill the most relevant and critical sourcing information in real time.

Actionable insights sit at the apex of your data pyramid. Findchips Pro does a massive amount of work collecting, preparing and analyzing data from the marketplace, as it happens.

Learn more about the technology platform powering Findchips Pro

DISCOVER PARTS INTELLIGENCE

Findchips Pro makes it easy to get a complete view of a component's market data. A simple query returns accurate and up to date information, including:

- A complete summary of critical part information
- Risk indicators
- A list of distributors with available inventory
- Popularity indicators by class, category or region
- Price history and variation over the last 12 months
- Stock history levels over the last 12 months
- Alternative parts matching form, fit and function
- Related components
- One-click order from your selected supplier(s)

SEE A SAMPLE

LOOKING BEYOND PROTOTYPING

THE IMPORTANCE OF "WHAT-IF" SCENARIOS

When sourcing components for a new product, it is critical to ensure immediate viability and scalability for future mass production. Another important challenge that Findchips Pro enables to tackle easily is the design of "what-if" scenarios.

Creating multiple scenarios to maintain production if something were to happen should never be ignored. If a component suddenly becomes unavailable, you need to have an alternative matching form, fit and function immediately available to keep production running. If a supplier fails you, it is important to have a backup option ready to take over.

The industry has been and will continue to be shaped by its accelerating pace of change.

Globalization has opened up more favourable options in terms of labor costs and government incentives, but has also augmented the supply chain's level of complexity and number of critical touch points.

Product development cycles continue to shrink to meet demand, which seems to swing with every trend and micro-innovation.

Not to mention large-scale changes that could dramatically affect the industry, such as Brexit and several nations' recent commitment to isolationism.

In this context, what-if analysis isn't just for disaster scenarios—it's for companies who are looking to be better-equipped for any scenario that might force the supply chain to adjust.

Here is an email we received last year, from a former component engineer at Emerson:

The story was in 2011, when the Fukushima earthquake and tsunami destroyed the area.

The Toshiba factory was affected and forced to shut down. Our company was ordering their Neuron chip, which is single sourced. Our product managers contacted my team to help source out a compatible part. I was part of the component engineering team at the time, and was assigned to support currently produced products.

Our team had been working on a project that identified single sourced materials and proposed alternatives. Most of my senior contacts in the US design team already left a couple of years ago. With due diligence and teamwork, we got the solution and proposed an alternative within the week.

If the work to find an alternative wasn't done ahead of time, say 60% of the products would not have shipped to Telcos and data centers. It would have caused massive disruption and a huge loss in revenue.

The typical design period is 6 months so it would have caused us that delay. But we had planned for the worst and managed to stay on track.

Findchips Pro allows any company to design secondary sourcing and procurement circuits to maintain production in the event of a break in the primary supply chain. Enabling complete visibility on every potential sourcing scenario allows better planning and swift execution during crisis management periods.

CONCLUSION

Introducing new products to the market is an incredibly complex mission for any company.

Starting the NPI process with the right part selection as early as the first prototype drastically reduces the overall development cycle time.

Addressing potential sourcing issues before they occur eliminates the risk of interrupting production because of unavailable components.

Access to critical market information is vital to any manufacturing project, and accurate data is key both for the engineering team during the design phase, and for the sourcing and procurement team when it's time to bring a concept to life.

Finally, gaining immediate visibility on the sourcing landscape for a new product introduction enables sourcing and procurement departments to plan alternative circuits and be prepared if a production issue arises.

We built Findchips Pro to give every company the ability to make the right decisions from the beginning, and streamline the NPI process to give our customers a competitive advantage on highly competitive markets.

"Findchips Pro significantly reduces the time it takes our team to source new projects for our customers. Time is critical for NPI and this tool helps differentiate us from the competition."

Mike Duddy
Project Manager, WORLD Electronics

LEARN MORE ABOUT FINDCHIPS PRO

Visit our website

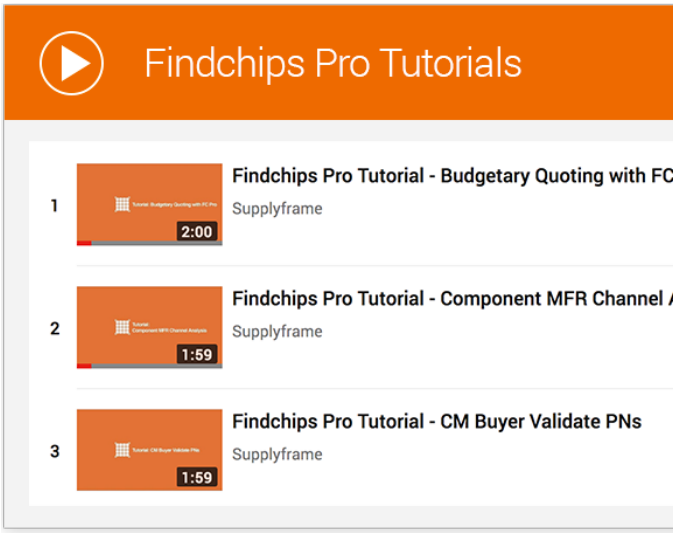
http://pro.findchips.com

Technology Platform

http://supplyframe.com/sourcing-intelligence

Supplyframe Sourcing Solutions

http://supplyframe.com/sourcing



CONTACT US

Supplyframe, Inc.

61 South Fair Oaks Avenue, Suite 200

Pasadena, CA 91105

By phone

+1 (626) 793-7732

+1 (866) 786-8339 (toll free)

By email

sales@findchips.com

findchips PRO