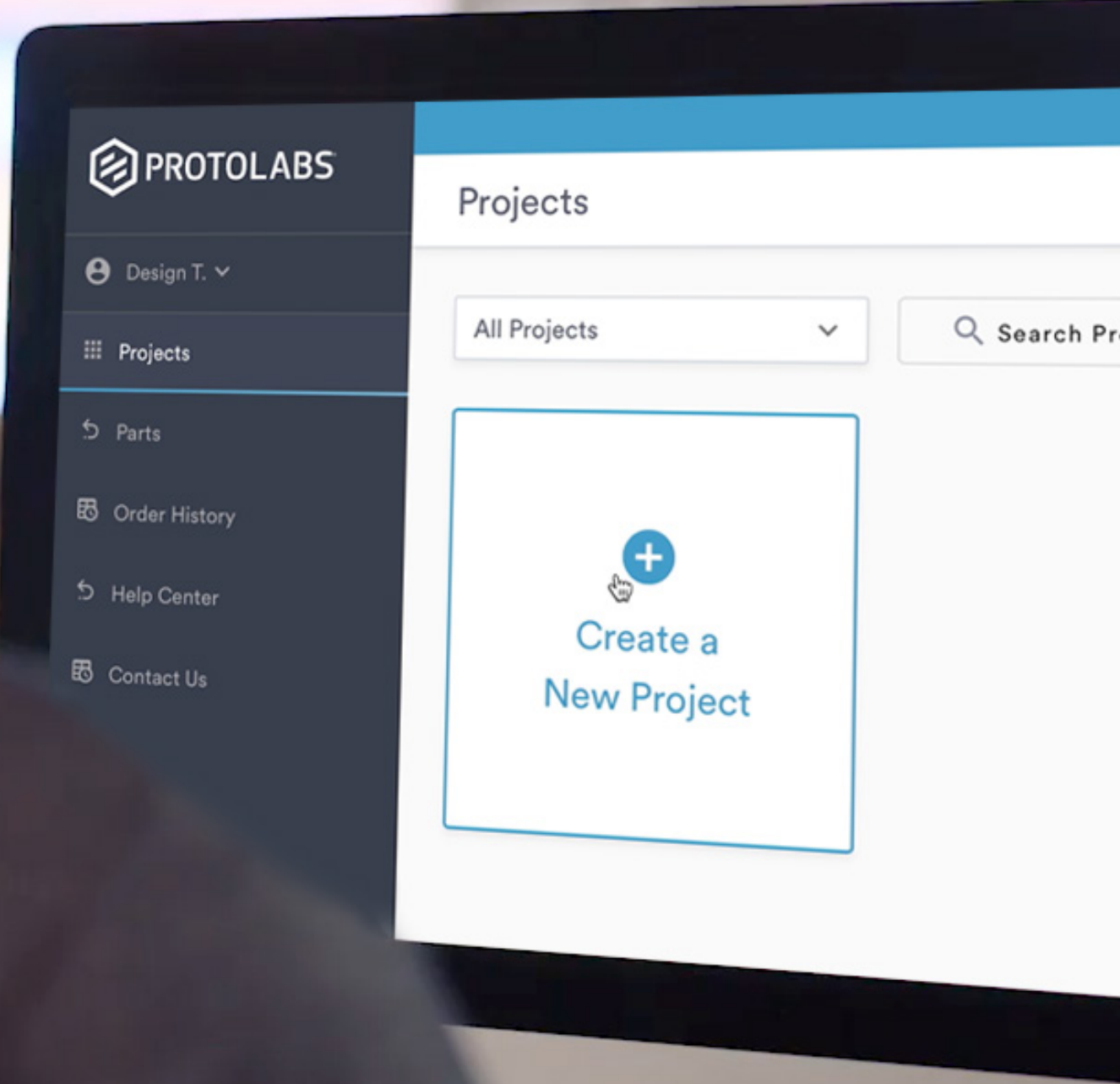


DIGITAL QUOTING PLATFORM

Your guide to what's new, navigating from part upload to order, and interpreting manufacturing analysis



PROTOLABS
Manufacturing. Accelerated.





We launched our company and its digital manufacturing model more than 20 years ago, and a necessary constant throughout those past two decades in the industry has been *change*. You simply cannot survive as a technology-forward manufacturing company that is complacent with where it is as at—you have to be future-facing.

And we've worked tirelessly to embody that notion of perpetual evolution by expanding our manufacturing services, enhancing our capabilities, moving beyond the antiquated idea that quick-turn manufacturing is limited to prototyping. But we haven't been the only ones with restless legs. The companies we work with and customers we serve—designers, engineers, product developers, procurement teams—have grown along with us. You have shortened development cycles, you need to react quickly to shifts in market demand, you want an end-to-end supplier that you can leverage at any point in your manufacturing process, whether that's prototyping or production.

So we have this partnership of sorts now—between manufacturing supplier and customer—with common challenges that need to be tackled. And often the first point of contact in this partnership is our digital manufacturing platform. You can quote parts, get design feedback on those parts, and place orders quickly. It's a solid quoting engine that has served us and our customers well over the years. But in the spirit of evolution, we've been building something bigger, better, more productive—our all-new digital manufacturing platform.

Some might say if it isn't broke, why fix it? We get it, and we want to reassure you that the things you've enjoyed about our previous platform are not going anywhere, they've just gotten better. Here are some reasons why change is good.

“You can configure multiple parts at once. This allows me to upload multiple parts, configure them all alongside each other, and then place a quote with just one PO number. And I have flexibility to move parts into a different quote.”

- Rob Eavis, DESIGNX

- > **Faster, Easier, More Intuitive:** You now have a much more intuitive, user-friendly, faster interface so you spend less time uploading, quoting, and ordering parts, and more time bringing ideas to market. It's a total online, digital experience with seamless navigation and collaboration within your account.
- > **All Services Within a Single Experience:** Three of our services (moulding, machining, 3D printing) are now united in single platform for a much easier, less painful quoting and ordering experience.
- > **More Collaboration Tools:** You can create Projects, which allow for teams of users vs single user. Our *Forward a Quote* function lets you easily share quotes with collaborators, who can in turn adjust lead time, materials, finishing, and other options to see real-time pricing impact.
- > **Enhanced Manufacturing Analysis:** We've kept the overall DNA of our DFM intact from our previous platform but have improved your interactive manufacturing analysis to make the walkthrough of the manufacturing feedback clear and concise, and your 3D viewer and part thumbnails are now larger and easier to view.



> **Service Line Standouts:** Each service has some unique features that we think you'll enjoy. With injection moulding, you can now view and discuss your gate and ejector pin layout *before* you order your tooling and parts. With CNC machining, we've drastically simplified threading assignments allowing you to easily click on any hole features and assign required threads. And with 3D printing, we kept the pricing table in tact so you can see real-time cost implications based on your choice of additive material and resolution level.

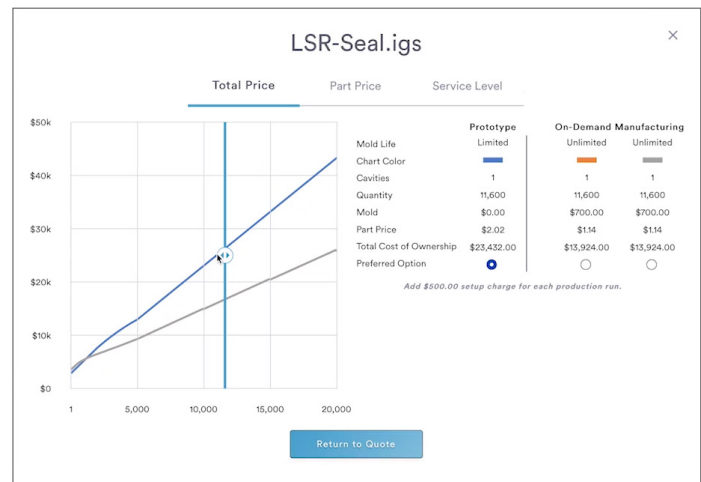
“It’s an excellent system and a good design pointed to help you achieve something that is actually mouldable. Instead of just going back and saying this can’t be moulded, this system takes you through step by step on what you need to do to make it mouldable and it also gives advisories.”

- Geoffrey Wain, ACQUISITION SYSTEMS

> **Integration of On-Demand Manufacturing:**

You now can find prototyping *and* production options for injection moulding under one quoting roof. Additionally, our new Price Curve tool compares prototyping vs. on-demand manufacturing options so you have full visibility to total cost of ownership on moulded parts throughout the product life cycle.

> **Total Transparency:** You now have access to *Receive By* calendar for shipping simplicity—just choose the date you want parts shipped and see cost implications. You also get complete shipping costs and tax provide at checkout—not after. And like we mentioned earlier, your descriptive design feedback will help streamline manufacturability of your parts.



We have a lot more we want to talk about around our new digital manufacturing platform and now that we've introduced it, let's show you around the place a little more with a look at [how to navigate the system](#). And when you've acclimated yourselves, close out your tour with a [deeper dive into our manufacturing analysis](#). We hope you enjoy.

WELCOME TO YOUR NEW DIGITAL MANUFACTURING PLATFORM

Quoting, Design Analysis, and Part Ordering



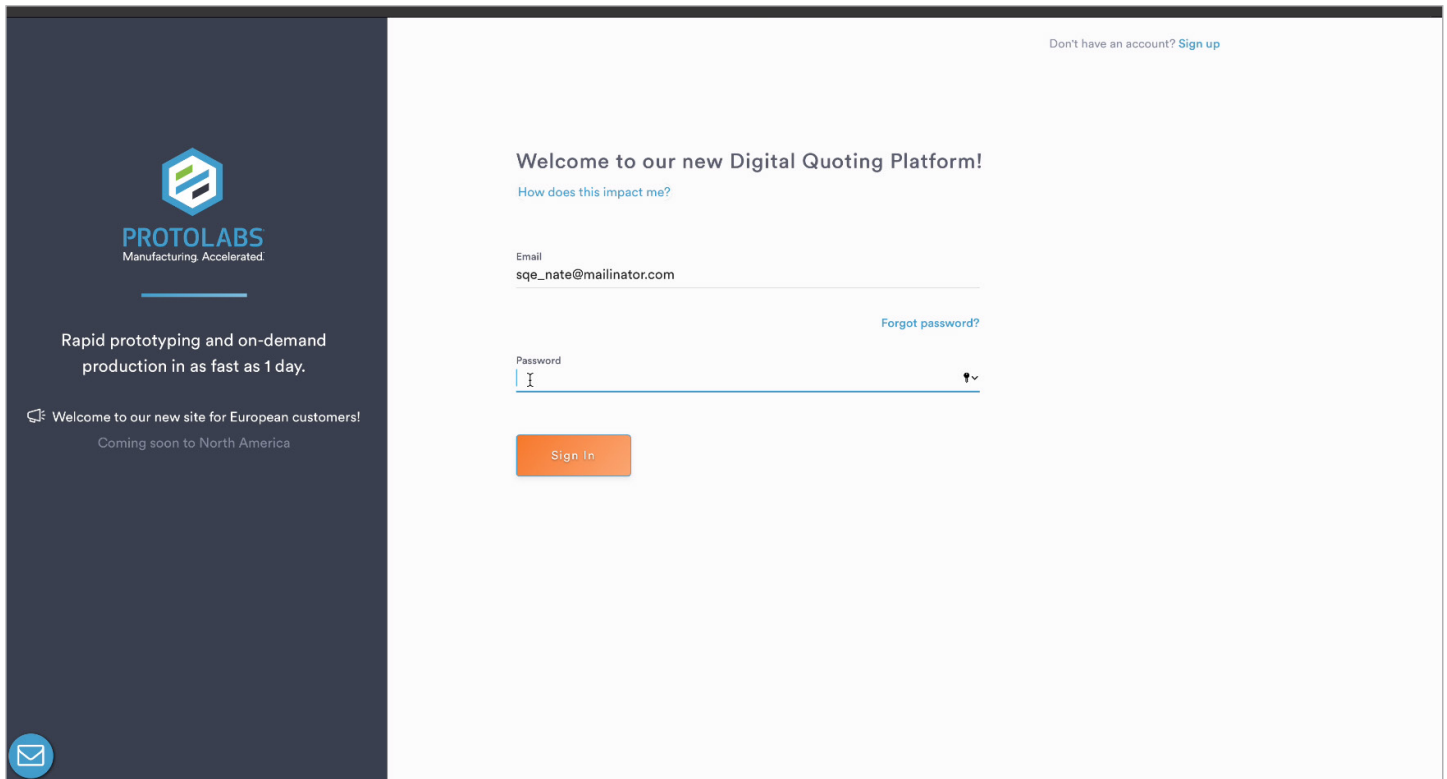
PROTOLABS

At the heart of the system is our new, user-friendly ecommerce platform for quoting and ordering. Its modern, intuitive interface was designed so you spend less time uploading, quoting, and ordering parts, and more time bringing ideas to market. And it's a catalyst for new capabilities—more production options, multiple part configurations in a single quote, more of what you've asked for.

To get started, we want to show you around the platform a bit and highlight some of the key features around navigation, organisation, collaboration, and other elements.

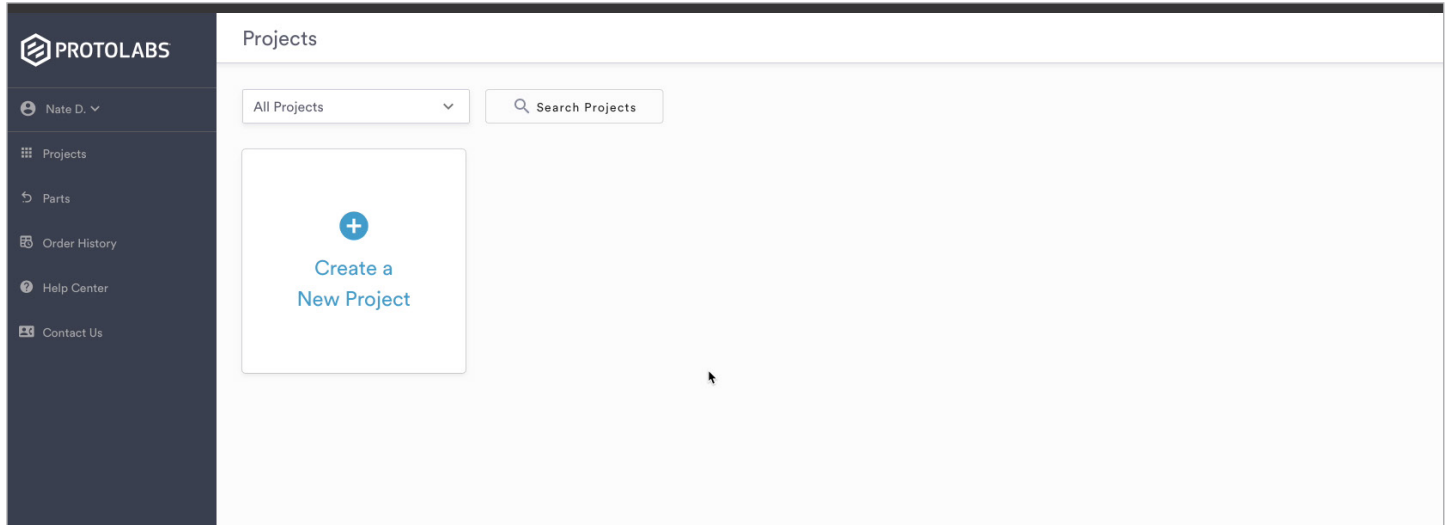
NAVIGATION

Sign In. Just hit **GET A QUOTE** in the upper right corner of on any protolabs.co.uk page or **SIGN IN** to your account directly above it. From there, you can either quickly create a new account—we just need a few pieces of information—or sign in to your existing Protolabs account. After your first sign in, we'll remember your info for future visits for easy one-click sign in.



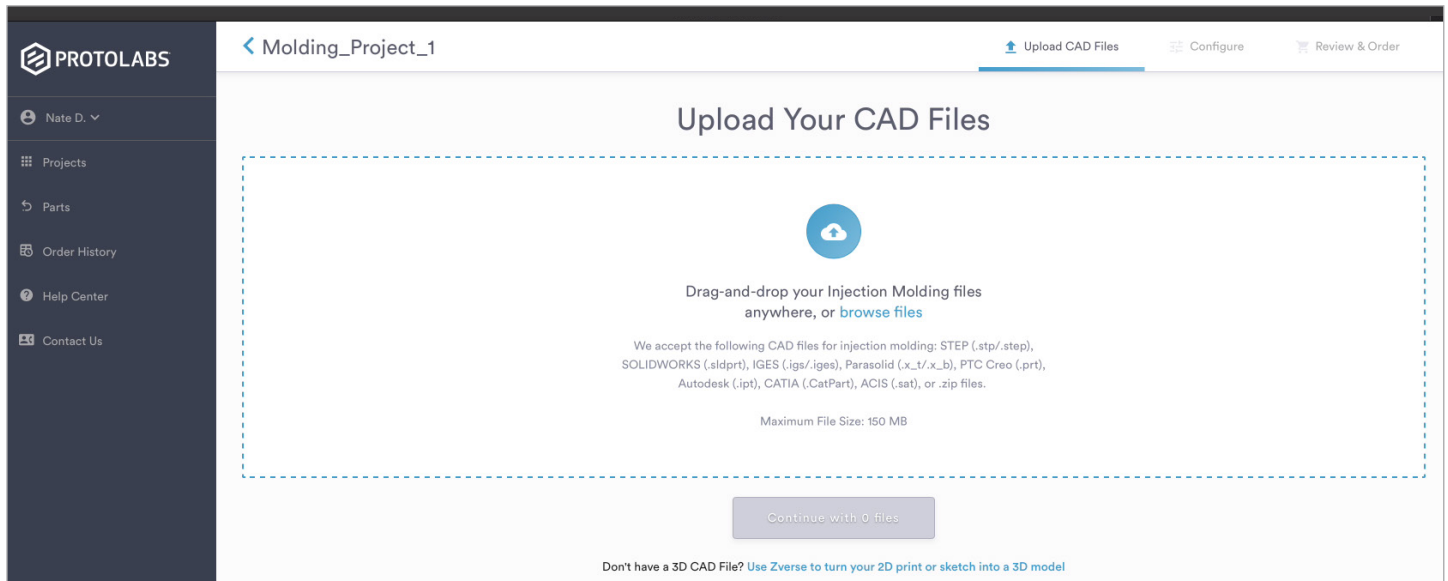


Start a Project. Once signed in, you'll arrive at your **PROJECTS** page. Welcome—it's good to have you here. High five. Ready to start a project? Just hit **CREATE A NEW PROJECT**. From there you'll be asked to name your project: insulin pump, metal bracket V2, aero heatsink_01, for example. Once you've named your project, click to **CREATE A NEW QUOTE**. Finally, select your service: injection moulding, CNC machining, or 3D printing.



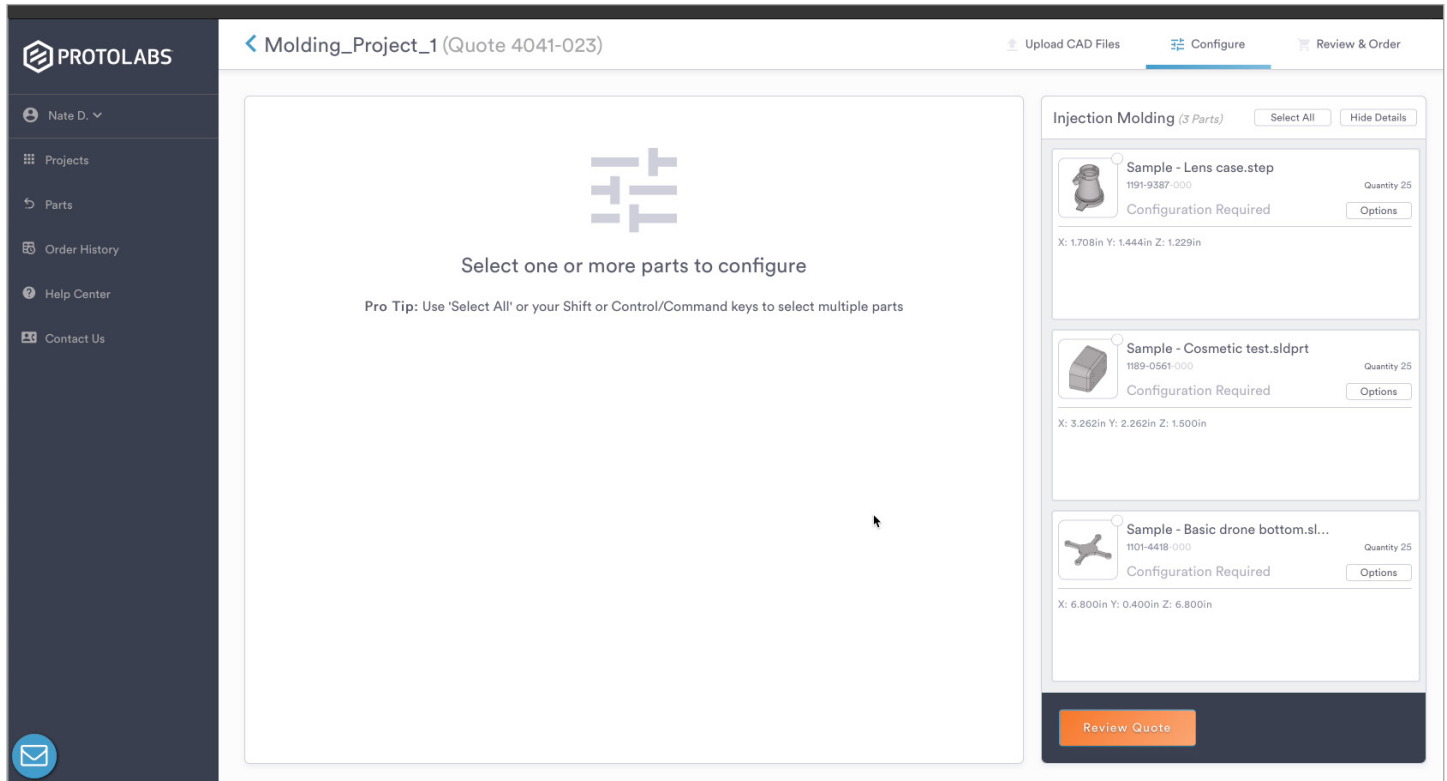
Upload a Part. Pretty easy so far, right? Now it's time to upload one (or multiple) 3D CAD files, which you can do by browsing your saved files or simply via our drag-n-drop interface. We accept these file formats:

- IGES (.igs)
- STEP (.stp)
- SolidWorks (.sldprt)
- PTC Creo (.prt)
- Parasolid (.x_t and .x_b)
- ACIS (.sat)
- AutoCAD (.dwg, 3D only)
- Autodesk Inventor (.ipt)
- CATIA (.CatPart)
- Compressed folders (.ZIP) can contain any combination of the above model file types
- Our 3D printing service can also generate a quote from a Stereolithography (.stl) file.





Configure Your Part Quote. Now that you've uploaded your CAD file/s to your project, just hit **CONTINUE** to start configuring your part with details like material selection, part quantity, finish, service-specific options, and things like special instructions. You'll notice as we move through the new platform that everything from upload to configuration is much more intuitive, and much faster. When you're all set, just hit **ANALYSIS**. You'll receive an interactive quote with free manufacturing analysis often within 20 minutes.



Review Your Order. Waiting in your inbox will be an email from Protolabs that allows you to jump back into your project to **REVIEW & ORDER** your quoted parts. You now have real-time pricing and manufacturing analysis based on your selections. If you want to adjust part quantity and shipping—no problem. Updated pricing will be reflected in your quote. And with 3D printing, you can see instantly how changes in additive materials and resolution levels impact pricing.

New to the platform is a *Receive By* calendar; just choose the date you want to receive parts and see any cost implications. You also get complete shipping costs and tax provide at checkout, not after. This means no hidden fees so your quote is an accurate and trustworthy delivery on cost estimates. You can even share your quotes with colleagues or procurement teams. It's a beautiful thing. But before checking out and ordering parts, we need to visit the heart of our platform—the automated manufacturing analysis.



Manufacturing Analysis. Simply stated, our manufacturing analysis provides feedback on the geometry of your CAD file to improve manufacturability. And in our new platform, manufacturing analysis has been enhanced to provide even more clarity on any design decisions. This analysis and any resulting design adjustments, in turn, can reduce manufacturing time and production costs. But hey, in some cases, your design may have no critical manufacturability issues. No required changes. Not even any suggested changes. You nailed it. But in other instances, you may need to make some tweaks. Within your quote review, you notice small green, yellow, and red icons at the bottom of your specific part quote that vary depending on the attention needed. Green? You're good to go. But if you see yellow or red advisory icons, you'll need to hit the **VIEW ADVISORIES** button to review the design feedback. We look at things like draft, wall thickness, hole features, and many other variables depending on the manufacturing service your using, and highlight features that are potentially troublesome. Any recommended changes are optional, but nonetheless, still recommended to improve manufacturability. Any required changes means you'll need to update your part geometry based on the feedback and upload a new CAD file to proceed with your order. In some cases with parts that will be injection moulded, for example, we may even provide a proposed revision that you can accept (or decline) to accelerate the ordering process. Still have question on our manufacturing analysis? Don't worry, check our blog post that goes on a manufacturing analysis deep dive.

The screenshot displays the 'Manufacturing Analysis' software interface. At the top, there's a header with the Proto Labs logo, 'Manufacturing Analysis' title, a 'Return to Quote' button, and 'Part 1 of 3: Sample - Lens case.step | Injection Molding'. The main interface is divided into a left sidebar and a central 3D view. The sidebar contains a 'BACK TO SUMMARY' link, a 'Need Help? Contact Us' link, and a list of analysis steps: 1. Fill Analysis (active), 2. Mold Inserts Used, 3. Texture, 4. Side-Pull Used, 5. Radius, and a 'Thick Area' icon. The 'Fill Analysis' section shows 'Fill pressure: 5000 psi.' and 'Number of gates: 1.' with a 'Next' button. The 3D view shows a lens case model with a pressure field analysis. A 'Transparency' slider is at the top, and 'Highlight Issues' is set to 'Off'. A 'PRESSURE (PSI)' legend ranges from 0 to 5000. A scale bar indicates 10 mm. The bottom of the interface has 'Previous Part' and 'Next Part' buttons, along with icons for different manufacturing services.

Checkout. When your part design is optimised and any modifications addressed, and your pricing and shipping details are in order, just hit **CHECKOUT NOW** in the **REVIEW & ORDER** page. Input shipping (add reference number, drop ship address, export docs) and billing info (pay with CC or PO), confirm the details, and hit **COMPLETE ORDER**. Depending on your chosen ship date, parts can be sent out in as fast as 24 hours and in your hands soon after.

That's a quick look at how a pretty straightforward quoting and ordering process would work, but there are many other features, intricacies, and benefits found throughout the platform. Things that have been engineered to improve your entire buying experience. Things around organisation and collaboration that we want to touch on before wrapping up.



ORGANISATION + COLLABORATION

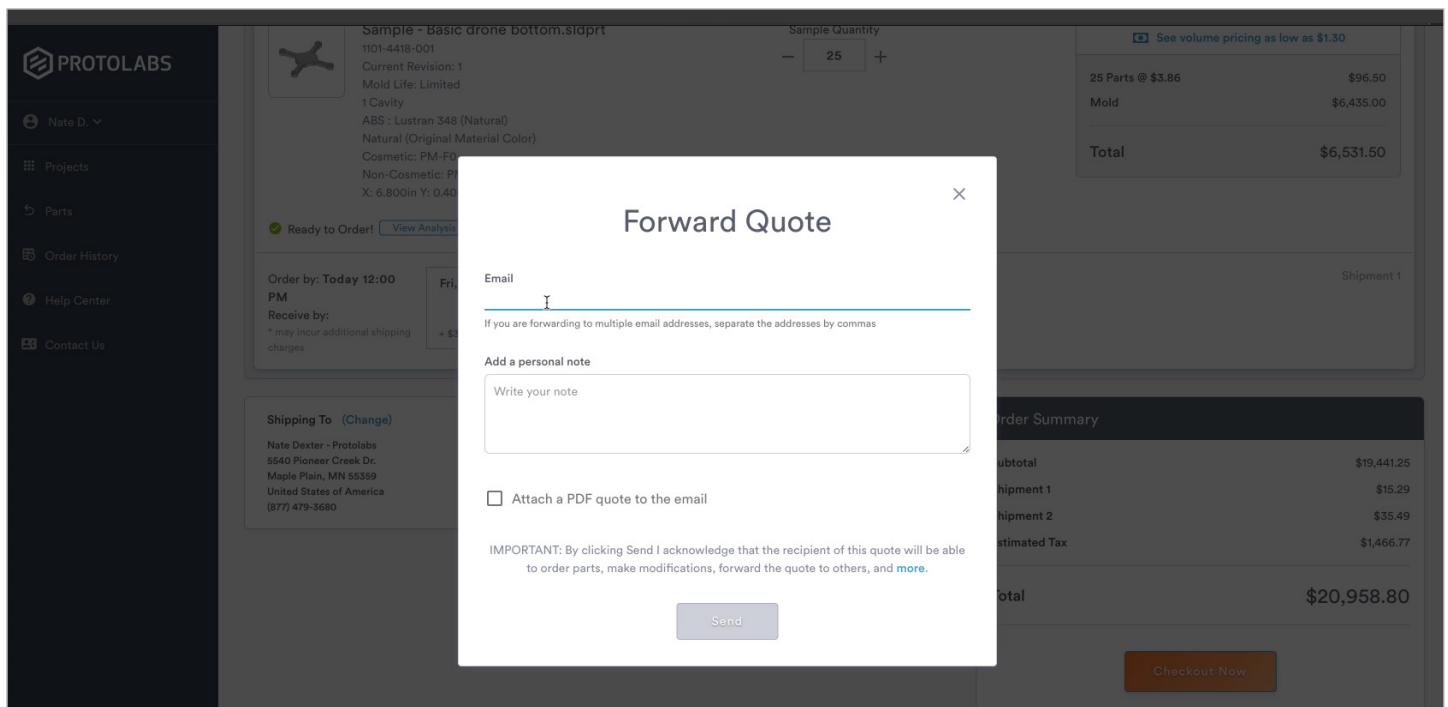
If you enjoy a neat, clean, and orderly user interface, we've got some good news—this is your section. Now that you have an account and have started creating projects, requesting quotes, ordering parts, you can organise your account by projects and build a parts library. So much better than sorting through piles of different quotes.

Have more parts to upload for quoting? As touched on earlier, you can load and configure multiple parts from multiple services—moulding, machining, 3D printing. Again, this helps maintain order. Have an expired quote? No worries. You can easily access quotes that have expired and immediately re-price them.

We also retain any CNC toolpathing information from past orders so you can reorder and receive precise, consistent parts every time. How about revision control? That is tracked and stored so design versioning is much easier to access.

Searching for quotes and orders is painless via the search bar inside your **PROJECTS** page and with your Order History. Accessing any of the aforementioned manufacturing analysis that has been provided on quotes is seamless—find it right within your corresponding project. Supplying your own resin—you can even manage those directly within the platform.

We all know that teamwork makes the dream work so let's close with a few collaboration tools now available to you. We've added a **FORWARD QUOTE** function lets you easily share quotes with collaborators like colleagues, managers, and procurement teams. Collaborators can adjust turn time, materials, finishing, and other options to see real-time pricing impact. You can also easily forward quotes to co-workers, collaborators, or whoever needs to be looped in.



Upload a part now, or check out a sample quote if you're not quite ready.

A DEEP DIVE INTO DESIGN ANALYSIS

Accessing Analysis, Interpreting Feedback, Optimising Your CAD Model



PROTOLABS

Now, let's take a closer look at what is arguably the most important benefit of the platform, sandwiched between your request for analysis and actual placement of your order. It's our automated, interactive manufacturing analysis. And with the relaunch of our new platform, you'll see that we've given it a modern interface along with some new features you'll find valuable.

FINDING YOUR MANUFACTURING ANALYSIS

Before we go too far, how do you actually get your free manufacturing analysis? Just sign in and upload a part at protolabs.co.uk, make your appropriate selections in key areas like materials, quantity, surface finish, turn time, and submit a request for quote. Within a few hours, you'll have an email in your inbox letting you know your quote is ready with a 3D analysis of your design. The overall process is fast and painless, and honestly, something you don't often get with traditional manufacturers.

The screenshot displays the Protolabs web interface for a project titled "3DP_Project_1 (Quote 4685-044)". The interface is divided into several sections:

- Left Sidebar:** Contains navigation links for "Projects", "Parts", "Order History", "Help Center", and "Contact Us".
- Top Navigation:** Includes "Upload CAD Files", "Configure", and "Review & Order".
- 1. Material and Finish:** A section for configuring 3D printing selections for 1 part(s). It includes dropdown menus for Material (ABS-Like Black), Resolution (High Res), Finish (Unfinished), and Orientation (Custom). A quantity input field is set to 5.
- 2. More Options:** A section for additional information, including "Special Instructions" and "ITAR" (No Change).
- 3D Printing (3 Parts):** A summary table of the selected parts and their prices:

Part Name	Quantity	Price
Sample - End Cap.stl (1462-6795-007)	5	\$431.55
Sample - Connector.sldprt (1441-0109-001)	1	\$669.00
Sample - Hinge.stl (1778-2764-001)	1	\$272.70
Total Parts Price		\$1,373.25

Simply stated, our manufacturing analysis provides feedback on the geometry of your CAD file to improve manufacturability. And in our new platform, manufacturing analysis has been enhanced to provide even more clarity on any design decisions. We've improved the revision and reanalysis process to drastically accelerate the design feedback loop. As a result, the analysis and any resulting design adjustments can reduce manufacturing time and production costs.



But hey, in some cases, your design may have no critical manufacturability issues. No *required* changes. Not even any suggested changes. You nailed it. Nice work. In other instances, you may need to make some tweaks. Your parts will have many colour-coded statuses as they progress through the configuration, analysis, review, and approval stages. Ultimately, the goal is to get your parts to green **Ready to Manufacture** status. Here's how the colours translate:



Needs Configuration. All newly uploaded parts begin with a white status. These parts need to be configured and, if necessary, sent for analysis.



Manufacturing Analysis in Progress. Parts with a grey status are currently being analysed by our team to identify manufacturing limitations, lead times, and pricing. You'll get an email from us when all the parts on your quote are ready for review.



Ready for Manufacturing. Parts have completed analysis and quoting, and do not require additional review or approval. You may checkout once all parts on a quote have reached this status.



Review and Approve. Parts with a yellow status are almost ready for manufacturing. We just need you to review the manufacturing analysis to approve advisories, accept gate and ejector layouts, and/or choose your threading options. Once approved, your parts will change to green status.



Revisions Required/Unable to Manufacture. Unfortunately, we are unable to manufacture parts with a red status. Please review the manufacturing analysis to learn how you may modify your part design to match our manufacturing capabilities. You can also contact us to review with one of our application engineers.



Expired Quote. Parts with a black status have expired pricing. Please resend for quoting. Thanks!

We look at many variables and, depending on the manufacturing service you're using, highlight features that are potentially troublesome. On any recommended changes, you'll need to adjust your design to improve manufacturability, or accept any limitations to the part that may occur if changes aren't addressed. Any required changes means you'll need to update your part geometry based on the feedback and upload a new CAD file to proceed with your order.

The first thing you'll probably notice when you jump into your manufacturing analysis is a beautiful, three-dimensional model of your part on the right side of the screen. You can manipulate the part in any direction, so go ahead, spin it around, zoom in and out, get familiar with the controls. You can also:

- Change orthogonal views
- Bounce between metric and imperial measurements
- Reduce or increase part transparency and single out the manufacturability issues
- Access shortcut keys
- View as a PDF



COMMON ADVISORIES WITHIN YOUR MANUFACTURING ANALYSIS

Now that you've poked around a bit, let's walk through some of the suggested and recommended advisories you may see.

Part Exceeds Limitations. For each of our manufacturing processes, we have minimum and maximum part sizes and some other design guidelines to adhere to for manufacturing that can be found on our website for each process.

Thin and Thick Areas and Walls. While excessive wall thickness is less of a concern with machining and 3D printing, walls and features that are too thin or too thick can be troublesome on injection-moulded parts. Well-designed parts will have [uniform wall thickness](#) when possible, and walls in any plastic-moulded part should be no less than 40 to 60 percent that of adjacent walls. And all should fit within recommended thickness ranges for the selected material. If not attended to, defects like flash, sink, and knit lines can wedge their way into the cosmetic appearance your parts.

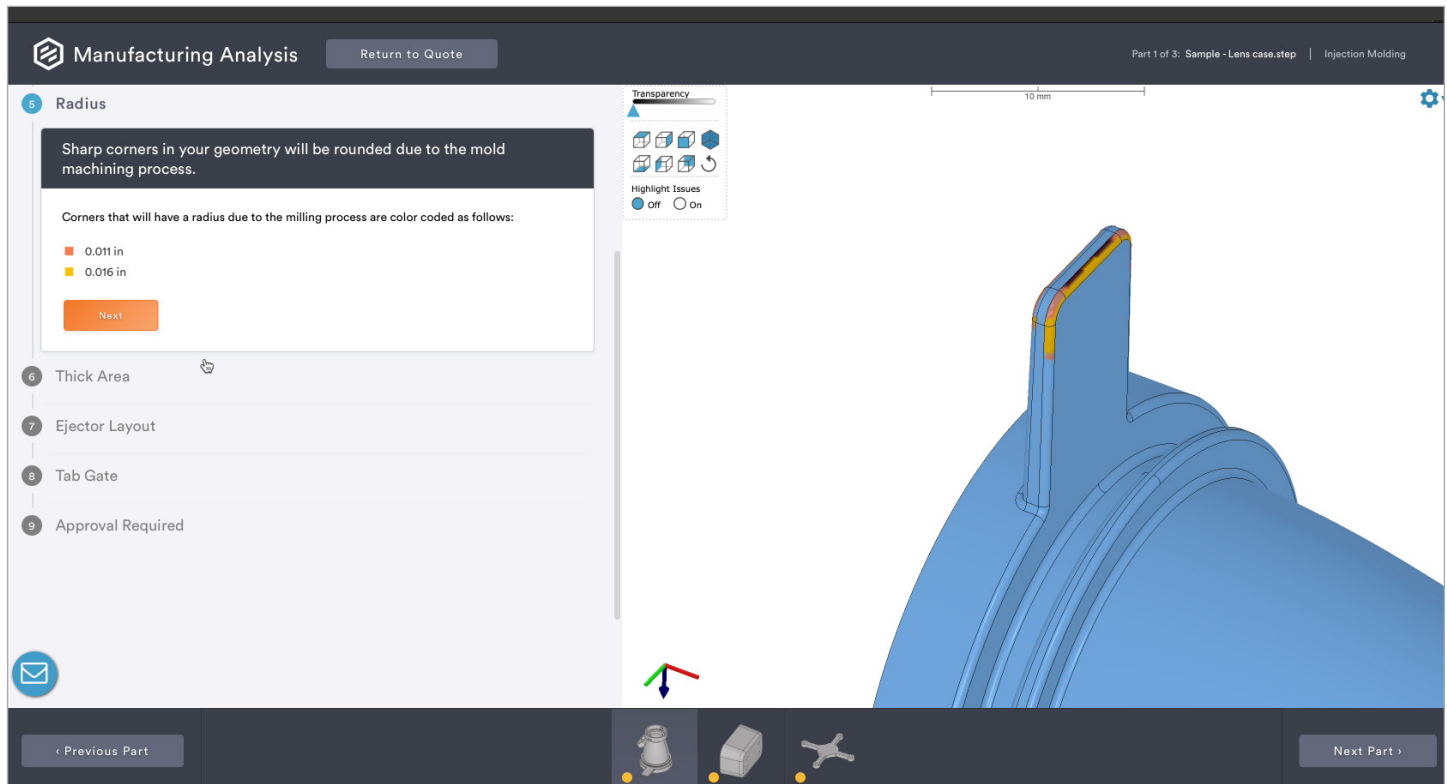
Zero Draft. Draft—a taper applied to the faces of parts that prevents them from being damaged due to the scraping as they are ejected from the mould—is another important design consideration with moulding. Without draft, drag marks, distortion from ejection stresses, and other issues can arise. A general rule of thumb is 1 degree of draft per 1 inch of cavity depth. The manufacturing analysis will highlight areas with zero draft so they can be modified.

The screenshot displays the 'Manufacturing Analysis' software interface. The top navigation bar includes 'Return to Quote' and 'Part 1 of 3: Sample - Lens case.step | Injection Molding'. The main content area is titled 'Texture' and contains a warning message: 'Insufficient draft may cause issues during ejection leading to part distortion and cosmetic flaws, as well as mold damage. If you choose a textured finish on your part: PM-T1 requires at least 3° of draft, and PM-T2 requires at least 5° of draft. Faces colored YELLOW have a draft of 3-5°, and faces colored RED have a draft of less than 3°.' Below the message are 'View Area 1', 'View Area 2', and a 'Next' button. A vertical sidebar on the left lists other advisories: 'Side-Pull Used', 'Radius', 'Thick Area', 'Ejector Layout', 'Tab Gate', and 'Approval Required'. The central 3D model shows a blue lens with red and yellow highlights indicating draft issues. A 'Transparency' control and 'Highlight: Issues' toggle are visible above the model. The bottom navigation bar includes 'Previous Part', 'Next Part', and icons for different manufacturing processes.

Texture. Speaking of draft, with textured features, we recommend higher degrees of draft angles to assist with part ejection during moulding and avoiding cosmetic defects.



Radius. Adding [radii](#)—an edge or vertex that has been rounded—is typically a natural element of the milling process, whether a mould is being milled or an actual part is being machined. In your manufacturing analysis, we'll highlight on your 3D model where these radii will occur. In some cases with injection moulding, we'll add radii to assist with the flow of thermoplastic resin through the mould. Radii are less of a concern with additive manufacturing, however, if you plan on producing larger quantities of moulded parts from that same 3D-printed design, it's something to keep in mind.



Mould Flow Analysis. Another part design element we analyze and provide valuable early feedback around is how [resin will flow through the mould](#). You'll see fill pressure mapped out across your part that resembles a colour-coded rainbow. We'll recommend design changes like changes to wall thickness or other features to reduce fill pressure and ease the flow of resin through the mould. We avoid flash or short shots—geometry that wasn't completely filled with resin, causing short or missing features. Again, up-front analysis, before production begins, to make modifications if needed and accelerate the manufacturing process.

Material Left Behind. If your part is destined for machining, you may come across this advisory. We'll identify what percentage will be milled and what will remain un-milled, thus deviating from your original design. You'll see highlighted in red, areas where material will be left behind. At this point, you can modify your design or roll with the existing design.

OK to Machine on Lathe. Your part design may be [best suited for turning on a CNC lathe](#). We'll let you know in your manufacturing analysis is that's the case, but you'll still have the option to have it milled instead. Cylindrical parts are typically good candidate for turning, which can improve overall surface finish. Also, our CNC lathes—including an advanced Mazak lathe—have live tooling for features like on-axis, axial, and radial holes.



THREADABLE FEATURES FOR CNC MACHINING

Applying threads to machined parts now simpler than it has ever been and of our more popular features with machining customers. Within your manufacturing analysis, you can easily highlight and assign which holes need threads by clicking on your 3D model (vs. choosing from a list of holes) and you'll immediately see the cost implications.

We offer a limited selection of UNF, UNC, and metric threads along with coil and key inserts (but do not supply or install the inserts). On both milled and turned parts, threaded holes must be modeled at the proper diameter, however, threading options differ for milled and turned parts. For detailed information on machined threading options, check out our [comprehensive threading guide](#).

The screenshot displays the 'Manufacturing Analysis' software interface. On the left sidebar, there are three main sections: 'Material Left Behind', 'Threadable Features', and 'Approval Required'. The 'Threadable Features' section is active, showing a 'Choose Threadable Features' panel with '0 of 5 assigned'. It includes 'Select All' and 'Deselect All' buttons, a dropdown menu for 'Assign threads for 4 selected features', and a link to 'threaded holes guidelines'. Below this are 'Done Assigning' and 'Don't thread this part' buttons. The main workspace shows a 3D model of a tool holder fixture with a yellow callout '5' pointing to a hole. A 'Transparency' slider and 'Highlight Issues' toggle are visible above the model. The bottom navigation bar includes 'Previous Part' and 'Next Part' buttons, along with icons for different part types.

Got a project? [Upload a part now](#). If you're not quite ready, head over to our [sample quote](#), which will get you a chance to test drive the platform and the interactive manufacturing analysis.

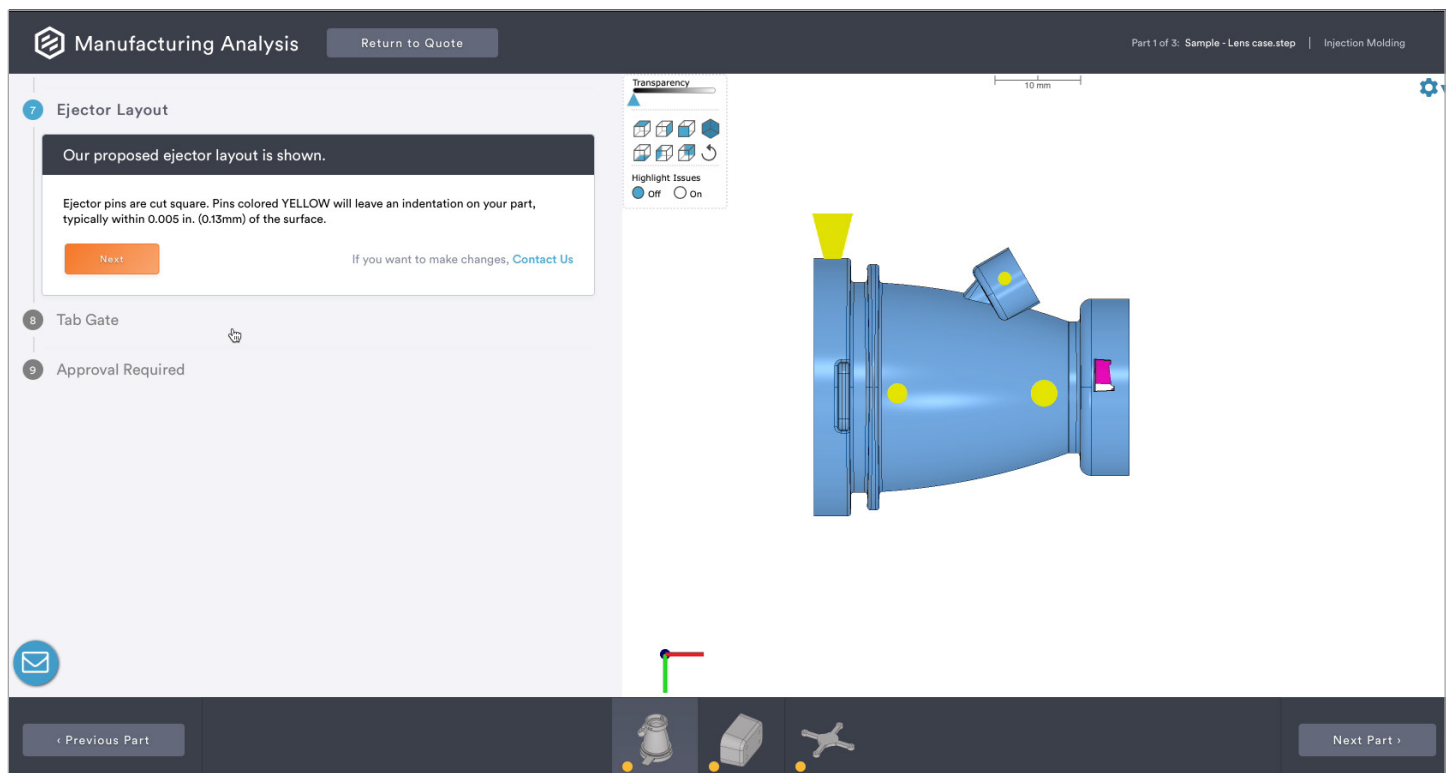


GATE & EJECTOR PIN LAYOUT FOR INJECTION MOULDING

We've now built your [gate](#) and [ejector pin](#) layout design review on moulded parts directly within your manufacturing analysis before you place your order! In our prior platform, this could be a time-intensive back-and-forth conversation whereas now it's streamlined directly within your quote. Again, the goal is to make this as painless as possible for you to order parts.

Within your manufacturing analysis, you'll be prompted to **VIEW GATE & EJECTOR LAYOUT**. In doing so, we'll highlight on your 3D model in yellow and red where it will be gated along with specific notes on the left side of the screen detailing the type of gate used—sprue or tab gate, for example—and that a small vestige typically may occur on the surface. You can comment on the layout by clicking on a section of your 3D model or advance to the next step, which is your ejector pin placement.

Here, we highlight in yellow circles all of the areas on you 3D model where pins will be used to eject your parts from the mold. Note that ejector pins typically leave small indentations on the surface your parts of approximately. Again, you can leave a comment on our recommended pin placement, or continue toward approval. Finally, you can download a PDF design review to look over, check the approval box, and you're all set. If you've left any comments, those will be sent back to our team for review and to prepare a revised layout based on the feedback.



Got a project? [Upload a part now](#). If you're not quite ready, head over to our [sample quote](#), which will get you a chance to test drive the platform and the interactive manufacturing analysis.



ON-DEMAND MANUFACTURING FOR LOW-VOLUME INJECTION MOULDING

We provide two injection moulding service options. One is best suited for those who need smaller part quantities often associated with [prototyping](#) and the other a good fit for those who require larger part quantities common in [low-volume production](#) called On-Demand Manufacturing (ODM). While the moulds themselves are similar, part quantities, lifetime maintenance, quality documentation, and pricing vary depending on which service option is chosen. The right one depends on your project needs. Let's quickly look at the benefits of ODM and how to select that option in your quote.

When requesting a quote, you'll have the opportunity to choose the Mould Life of your tooling—**limited** or **unlimited**. You can even choose **I'll Decide Later** and we'll work with you to identify the best tooling option. By selecting unlimited, you'll move into our ODM option. From there you can also select **Sample Quantity** and can identify whether you'll need a single-cavity mould or multi-cavity (up to 8 cavities).

To help you decide, we created an all-new **Price Curve** tool that compares prototyping against ODM options so you have full visibility and total cost of ownership on molded parts throughout the product life cycle. As you adjust the total quantity you'll see in real-time the impact on cost. And because of the cost saving at higher volumes, ODM is suitable for ramping up before shifting to full production volumes (outside of Protolabs). Additionally, a range of secondary services help provide a more comprehensive on-demand manufacturing service.



Got a project? [Upload a part now](#). If you're not quite ready, head over to our [sample quote](#), which will get you a chance to test drive the platform and the interactive manufacturing analysis.



PROTOLABS PROPOSED REVISIONS FOR INJECTION MOULDING

The final area that we want to touch on is what we call our *Protolabs Proposed Revisions (PPR)*, which are intended to help improve part design and material selection on injection moulded parts, and again, accelerate the overall manufacturing process. PPRs are a suggested modification to your part geometry to ensure your design complies with the capabilities of our digital manufacturing process. If your part has some required changes and qualifies for PPR, we'll send you an already-revised model that you can review within your manufacturing analysis.

Generally, we'll provide STEP, IGES, and SolidWorks files depending on your original CAD model. If you like the change and there are no unresolved required changes, you can go ahead and accept the revisions and order your parts. If you like the proposed changes but want to order from your own source file, you can download the CAD model from your quote, update your own source file to match the PPR, and resubmit it. Quoting again is required to ensure a match between the quote and part, but the updated quote should be returned with no required changes and thus, your part should be orderable.

If you don't like (or can't accept) the PPR, you can resolve design advisories by modifying your part geometry to meet the intent of the advisories and PPR, and resubmitting your part, or you can discuss alternative solutions by contacting one of our applications engineers at **+44 (0) 1952 683047** or customerservice@protolabs.co.uk. PPRs are free (!) and revised geometries are priced as any part would be. Some changes will influence price up or down. In practice, most price changes from minor geometry revisions are negligible.

The screenshot displays the 'Manufacturing Analysis' interface. On the left, a navigation menu lists various analysis categories: Texture, Steel-Core Pin, Thick Area, Thin Area, Ejector Layout, Tab Gate, and Approval Required (highlighted). A dialog box is open, asking 'Do you accept these advisories? Why?' and providing instructions on how to approve. The dialog includes a 'Need Help?' link, a 'Learn more' link, and a flow diagram showing 'Review & approve' leading to 'Ready to order'. The main area shows a 3D model of a part with a 50 mm scale bar. A 'Transparency' control and 'Highlight Issues' toggle are visible. The bottom navigation bar includes 'Previous Part' and 'Next Part' buttons, along with icons for different analysis types.

Ok, that's it. We know this was a lot to cover but hopefully it helped serve as a primer for our manufacturing analysis, interpreting the feedback, and leveraging all of the capabilities that are possible inside your quote.

Got a project? [Upload a part now](#). If you're not quite ready, head over to our [sample quote](#), which will get you a chance to test drive the platform and the interactive manufacturing analysis.