



**Writing a new
future for an
old classic:
How Stratasys
3D printing
technology
reinvented the
Duchessa 1935
brand**



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Fabio Moricci
Co-Owner, Il Pennaio



With the use of Stratasys' multi-color, multi-material 3D printing technology, artisan penmaker Il Pennaio has been able to bring one of Italy's most prestigious luxury brands, Duchessa 1935, into the modern market. Delivering a host of vibrant, contemporary designs in the brand's first collection in over sixty years, the 3D printed pens have not only revived a cherished, historic Italian brand, but has also stretched the bounds of creative possibility to transform the face of the luxury pen market.

With Italian design having long been synonymous with unrivalled quality and craftsmanship, it is no wonder that authentic, home-grown Italian brands like Duchessa 1935 are amongst the most sought-after and well-respected across the creative industries. A flagship for the luxury fountain pen market, steeped in Italian history and culture, Duchessa carved its place as one of the most prestigious brands on the market, garnering decades of success before eventually closing its doors in 1958.

Having evolved substantially in the sixty years since, today's luxury pen market now offers a landscape of renewed promise and opportunity, valued at over 2.3 billion US dollars – pushing the pursuit of superior quality and stand-out design to the top of the agenda. Searching for a new challenge, high-end luxury pen manufacturer [Il Pennaio](#) recently set its sights on the quintessential Duchessa brand, intent on reviving the iconic name. In order to restore the brand to its former glory and honor its rich history, however, the penmakers also needed to provide a critical contemporary edge that would allow Duchessa 1935 products to thrive in a competitive modern market.

A technological edge

Il Pennaio set about creating a landmark range of new 3D printed fountain pens that would push past the limits of existing pen-making techniques, creating an unprecedented range of designs. Teaming with [Florenradica](#), a parts and accessories manufacturer for high-end fashion, Il Pennaio turned to the cutting edge of technology to provide brand new capabilities and the ideal juxtaposition to Duchessa's traditional background. Leveraging Stratasys' multi-color, multi-material [J8 Series™ PolyJet™ 3D printing technology](#), the duo was able to produce a line of contemporary, stand-out designs that have put Duchessa 1935 back on the map almost a century on from its inception.



Stratasys' 3D printing technology enabled Florenradica and Il Pennaio to create a host of innovative 3D printed designs to relaunch the iconic Duchessa 1935 brand. One such example is The American Dream, produced in 76 pieces

The new designs – featuring vibrant color combinations and intricate patterns – would have been unachievable even with other 3D printers, let alone via traditional manufacturing methods, according to Fabio Moricci, Co-Owner, Il Pennaio. This is because the Stratasys printers can vibrantly and accurately produce over 640,000 unique color and texture combinations, including Pantone Verified colors. “Having tested the same designs, other 3D printers weren't able to produce results that were even near comparable; we truly believe Stratasys is the only provider that can deliver the exceptional quality that luxury, high-end brands demand,” he explains.



The Zhulong fountain pen – 88 pieces – features very special colour shades and effects. Each pen in the Duchessa 1935 range was designed and produced on-site in Florence, utilizing one of Florenradica's two Stratasys 3D Printers

Like many other competitive industries, the luxury pen market offers no shortage of suppliers and manufacturers to whom big brands can turn to bring their designs to life. However, with the same few resins typically seen across the board, all of the same structure, there are usually few differentiating factors between pens, beyond aesthetics.

Stratasys' resins, by contrast, are completely different and novel for this market, opening up new possibilities and changing the way in which Il Pennaio and Florenradica approached design, Moricci says. "By fully exploring the color and material combinations made possible with Stratasys' technology, we have been able to deliver something fresh, exciting and truly innovative, revitalizing a market which has previously felt stagnant."

Rising to the challenge

Requiring both sophisticated color manipulation to create unique, stand-out designs and advanced technical expertise to ensure the full functionality of each pen's mechanical parts, the project involved complexities beyond the scope of Florenradica's usual creations. Whilst the company's work in the high-end fashion arena typically focuses on aesthetics rather than mechanics, it was critical for the new Duchessa range to fulfil both sets of demands. The combination of Stratasys' technical

knowledge, Florenradica's design expertise and Il Pennaio's industry insight, however, made the impossible achievable.

The fundamental versatility of 3D printing also makes it possible – and profitable – to produce the pens in very small quantities, even down to single units. Thanks to the ability of Stratasys' J8 Series 3D Printer to quickly and easily create multiple different parts within a single print job, for up to fifty complete pens per print tray, this has now opened the door to customization, limited editions and one-off pieces – something unachievable with traditional resin casting.

The first collection in the Duchessa 1935 range is available now and comprises 250 pieces, each designed and produced at Florenradica's Florence headquarters with Stratasys 3D printers. The series comprises a number of thoughtful designs that reflect the strong cultural roots inherent to the Duchessa brand, including 'Zhulong', inspired by Chinese mythology, and 'The American Dream', portraying key landmarks and motifs from American culture.

The new product-line has already seen sales success, which in turn is opening up new retail channels. Il Pennaio was selected as a partner for one of the biggest pen retailers in Europe, La Couronne du Comte, just weeks after the new collection went to market, delivering an influx of new customers.

Click [here](#) to see just how Stratasys's 3D printing technology was integral to this project.



Having worked with Stratasys for a number of years, we approached this venture already confident in the capabilities of the company's technology – even for the most challenging of design projects such as this one. We are very proud to have played a part in this project, which has brought the historic Duchessa 1935 brand into the modern day, changed the trajectory for Il Pennaio, and breathed new life into the industry.

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