

# **Josef Průša: Open-Source Innovation and the Democratization of 3D Printing**

Patrick Bays

Old Dominion University

CYSE 494: Entrepreneurship in Cybersecurity

Professor Rob Batchelder

July 4, 2025

**Introduction**

Josef Průša is a Czech inventor, engineer, and entrepreneur who has made significant impacts on the world of 3D Printing and open-source technology. Průša studied Computer Science at the University of Economics in Prague but did not finish his degree – instead opting to focus on his entrepreneurial ventures. His contributions to the 3D Printing ‘maker’ movement and the hardware community have shaped how current and future industries perceive rapid prototyping and manufacturing (including the company I work for!). He has also shaped the educator and hobbyist space, as his open-source approach to the underlying technology drastically decreases the barrier for entry, and increases mass market appeal.

### **Josef Průša’s Era**

Josef began his entrepreneurial journey in the early 2010s, as affordable computing became more and more accessible to the average person, and mobile hardware development accelerated drastically. This period was mired with progress in regards to the democratization of technology, with single board computers (SBCs) like Arduino and Raspberry Pi becoming mass-producible and more powerful with every iteration, and projects like RepRap (Replicating Rapid Prototyper) gaining notoriety. RepRap is novel in this case due to the fact that their mission was to create a completely free desktop 3D Printer that is capable of printing its own components, essentially creating a self-replicating printer. Engineering minds gathered around RepRap as a grassroots movement, including Průša himself as he joined the community as a core developer in 2009. Throughout his time with RepRap, his inventive mind took flight as he developed and redesigned a smaller version of the RepRap Mendel printer, which he dubbed the Prusa Mendel.

### **Relevance of Business, Ideas, and Innovation in Their Era**

Průša released his Prusa Mendel printer in 2011 as a cheaper, easier to assemble, and more simply constructed version of the RepRap device of the same name. As part of his ethos, this design was also completely open-source, allowing the community to iterate further upon it. The Prusa Mendel laid the foundation for his arguably most significant contribution, the Prusa i3. The i3 was released in

2012, and quickly became the most popular 3D printer worldwide. This was due to its affordability, ease of use, ease of assembly, and reliability. Unlike many do-it-yourself kits on the market, the i3 offered consistent, high-quality prints at a low price point, striking the perfect balance between performance, price, and ease of use. Due to both Průša and the community iterating on this foundation, additive manufacturing advancements flourished. As a result of this massive expansion of the 3D Printing community, the original i3 design can still be seen in modern printers today – even compared to premium printers made by Bambu Lab or eufyMake.

### **Impact on Current Worldview**

Josef Průša's work contributed to a tectonic shift in attitudes towards manufacturing and product development. The accessibility he provided by creating reliable and affordable 3D printers empowered individuals to be able to create real, functional products and tools in real time without reliance on large-scale industrial infrastructure. His successful decentralization of production also helped pave the way for consumer repair initiatives and allowed for users to easily customize their devices in both cosmetic and functional ways. This impact wasn't just only felt in the hobbyist space however, as Průša gained a second boost in notoriety during the COVID-19 pandemic, as Prusa Research produced over 250,000 open-source and externally certified face shields for healthcare workers. This exemplified perfectly to the industry how small-scale and agile manufacturing like 3D printing can address urgent, large-scale needs.

### **Success and Longevity**

Josef Průša and Prusa Research's success is evident in several ways. Financially, the company grew from a basement operation into a company that currently employs over a thousand people, and ships thousands of printers monthly. He was even recognized as Entrepreneur of the Year in the Czech Republic in 2020 and featured in Forbes Europe 30 Under 30 list. His success has been proven durable, as his reputation for reliable and affordable printers has remained unwavering. Prusa Research has iterated further on their original designs, creating the Prusa i3 MK2/S, and MK3/S/+ before moving to

their own original frame with the Original Prusa Mini, Prusa SL1S, the Prusa XL, and the Prusa MK4/S. They have continued internal innovations well, with the Prusa XL being a notable example due to its iteration on existing large form factor printers, more specifically its ability to switch between five different tool heads on the fly, which eliminated the need for wastefully clearing a single tool head when switching between filaments during a print job.

### **Personal Observations and Opinions**

In my opinion, Josef Průša is a near perfect example of a modern entrepreneur whose success stems from both technical skill and a proper understanding of both community-driven innovation and user base creation. As an open-source proponent myself, I greatly admire his unwavering dedication to the grassroots principles he's held from the very beginning. I also admire Prusa Research's approach to business, as they have long emphasized community engagement, transparency, and adaptability. Unlike competitors like Bambu Lab who focus solely on proprietary design, Prusa actively shares blueprints for their devices and publishes their firmware and software under an open-source license for anyone to edit. Overall, his career so far illustrates that social impact can be just as important as financial gain when setting out on an entrepreneurial venture. Beyond being a beacon for open-source development, this strategy also served to adapt to its user base that first found purchase in projects such as RepRap and rapidly accelerate them to becoming a worldwide community-driven phenomenon. As industries increasingly value sustainability and decentralized production, especially in our modern day world where tariffs on large-scale production centers can be implemented and repealed within days, I believe that Josef Průša and Prusa Research's influence will remain evergreen.

## References

Czech & Slovak Leaders. (2021, April 17). *Josef Průša, founder and owner of Prusa Research, has become EY Entrepreneur of the Year 2020 Czech Republic*. Czech & Slovak Leaders.

<https://www.czechleaders.com/photogalleries/josef-prusa-founder-and-owner-of-prusa-research-has-become-ey-entrepreneur-of-the-year-2020-czech-republic/>

Forbes Magazine. (2018, January 22). *30 under 30 Europe 2018: Technology*. Forbes.

<https://www.forbes.com/30-under-30-europe/2018/technology/#3b5f1638c04b>

Kenety, B. (2021, April 8). *3D printing whiz Josef Průša named youngest Czech “Entrepreneur of the Year” in history*. Radio Prague International. <https://english.radio.cz/3d-printing-whiz-josef-prusa-named-youngest-czech-entrepreneur-year-history-8714222>

RepRap. (2010, November 9). *Prusa Mendel*. RepRap. [https://reprap.org/wiki/Prusa\\_Mendel](https://reprap.org/wiki/Prusa_Mendel)

RepRap. (2009, December 8). *About*. RepRap. <https://reprap.org/wiki/About>

Prusa, J. (n.d.). *About us: Original Prusa 3D printers directly from Josef Prusa*. Prusa3D by Josef Prusa. [https://www.prusa3d.com/page/about-us\\_77/](https://www.prusa3d.com/page/about-us_77/)