Makers To The Rescue, How The Tech Community United Against COVID-19 In Spain

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Media

I write about great music, mobile-centric tech and related trends.

A facemask is seen on a statue of Spanish poet Federico Garcia Lorca   GETTY IMAGES

Can you remember the first time the sheer scale of the COVID-19 pandemic hit you; when the penny really dropped? In Spain, the cancellation of the seemingly indestructible Mobile World Congress (MWC) trade show in Barcelona marked a turning point in the national perception of the crisis. The GSMA's prescient cancellation of the event in February was an early harbinger of what was to come.

Although some commentators were dismissive of the GSMA's decision at the time, the exponential spread of the novel coronavirus through Spain's major population centers soon extinguished any doubts with brutal precision. The death toll was rising exponentially, and a nationwide lockdown was declared on March 14. The Ifema convention center in Madrid was turned into Spain's largest field hospital, while the nearby ice rink at the Palacio de Hielo mall was used as a makeshift morgue. By the third week of March, the Ifema was being compared to a war zone, and on March 25 the death rate in Spain surpassed that of China.

Hommage at the Severo Ochoa Hospital because of the COVID-19 in Leganes   GETTY IMAGES

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At the time of writing, there are an estimated 172,541 COVID-19 cases in Spain, and the death toll stands at 18,056. Thankfully, the grim metrics of the pandemic seem to finally be going the right way, as the numbers of new cases and deaths are trending downwards. That the curve has been flattened can be attributed to many factors such as the lockdown, the truly heroic work of courageous medical professionals, and also to the many individuals who supported the nation's fight against COVID-19. Amongst these is a group of 3D printing enthusiasts or "makers" who quickly mobilized and have been working tirelessly-and selflessly-to support the healthcare heroes in the frontline.

Jordi Vallejo and Natalia Pujades printing for Hospital Taulí and Hospital Vall d'Hebron, Barcelona   NATALIA

PUJADES AND JORDI VALLEJO

Jordi Vallejo, a Barcelona entrepreneur and technologist, recalls that many in the city gathered around the Tech Spirit Barcelona event, a grassroots alternative to MWC, and then self-organized to support the health services as the scale of the pandemic became clear. Vallejo and his partner, Natalia Pujades, joined the community at Coronavirus Makers, a national group that provides plans and also coordination for makers via the messaging app Telegram. "We found out that hospitals needed face shields," recalls Vallejo, "so we started printing these at home." The initial run made their way to social workers, while certification for the next batch was organized directly with Hospital Taulí.

Technology has been central to the cooperation at every stage, continues Vallejo. "A bot on Telegram matches the number of items made at our homes with logistics volunteers, who then collect and deliver the printed items to the hospitals that need them the most."

Scratch Barcelona student Nico Pereiras   THE PEREIRAS FAMILY

Pujades is the founder of Scratch Barcelona, a school for primary students to learn programming, 3D printing and robotics. She reveals that once news of the pandemic spread, she had an eager group of volunteers who wanted to do their part to support the hospitals. "We were using Ender 3 printers to make the Mochi Robot to teach the students about robotics, so we repurposed them to print face shields. The printers are only €200 on Amazon, so some of our students asked their families to buy one to support the hospitals. Frank, who is 12, and Nico, who is 8, are now making personal protective equipment (PPE) which is saving lives. The students are using PLA, a plastic made from corn, which is fully biodegradable. Hospital Taulí has a 3D printing department, and certified 3D printing plans can be downloaded by anyone who wants to help."

A 3D printed face shield   NATALIA PUJADES AND JORDI VALLEJO

Vallejo and Pujades use an ozone generator to disinfect the shields before they are collected, and like most of the makers, are funding the material costs from their own pockets. Vallejo adds that maker groups such as Coronavirus Makers and Covid Makers have delivered close to half a million face shields across Spain, including 50,000 in Barcelona alone.

Cecilia Tham   CECILIA THAM

In the Poble Nou area of Central Barcelona, Cecilia Tham and her partner Mark Bünger are part of another virtual community, the Covid Warriors. The group manages multiple task forces across areas like data science and AI alongside makers and 3D printing resources. Tham is a well-known entrepreneur, speaker and educator; she founded Makers of Barcelona in 2011, co-founded the AllWomen campus, and setup up the Barcelona branch of the FabCafe 3D printing hub.

Tham was due to give a talk on female-focused medical devices at the Vall d'Hebron hospital when the pandemic struck. She mobilized quickly to support

the hospital, setting up a crowdfunding campaign to buy masks directly from China. "The hospitals needed a huge quantity of masks very quickly, and people here were very generous with donations and time. Begoña Ruiz de Infante helped with the logistics in Barcelona, especially between the Chinese community and the government, the customs office and all other logistics efforts." At the beginning of April, Ada Colau, the mayor of Barcelona, announced that the government had received 12 tons of supplies from China, enough to last four to six weeks.

Ada Colau ✔
@AdaColau

Per fi! Han arribat les 12 tones de material q hem comprat per protegir el personal que ens cuida. Sanitaris, Guàrdia Urbana, Bombers, mercats, neteja, treball social, cementiris... tots i totes imprescindibles 👏
Gràcies als serveis municipals i al suport de la comunitat xinesa!

♡ 1,780   7:20 AM - Apr 2, 2020   ⓘ

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Tham admits that both the speed of the pandemic and the galvanising reaction of the Barcelona tech community were unexpected. "I never thought 3D printers in coffee shops would be printing valves for hospitals. It all happened so quickly! There are a lot of success stories everywhere. EntresD donated some invaluable raw materials to support the makers' work; and the OxyGEN collaborative project from Protofy released an advanced open hardware mechanized resuscitator, which can mostly be made from salvaged parts. Michael Nordblom saw what was happening in the town of Igualada, which had one of the first outbreaks in Catalonia, it was not getting the supplies it needed so he bought the masks himself and delivered them with a colleague."

David Tena   DAVID TENA

David Tena, the head of operations at FabCafe Barcelona, reveals that the maker community has been working solidly for weeks, investing time and money to support the effort against COVID-19. "We started two crowdfunders for respirators and masks, but we are paying with our own money in the meantime. We cannot wait for things to happen, time is of the essence." Tena co-founded the organization Omplim Magatzems, which is Catalan for "we fill warehouses," with Ignasi Pascual. To date, they have organized and distributed over 18,000 masks, over 500 medical gowns and many hundreds of visors.

3D printed Y-splitters   FABCAFE BARCELONA

"We moved our 3D printers into people's homes and converted FabCafe into a logistics space but kept our industrial laser cutter here. We spoke with the hospital staff at Vall d'Hebron, St Pau and others, and they let us know what they needed first. We printed Y-splitters to the hospital's specifications to help increase the capacity of their respirators, and thanks to ALDI, we distributed many pallets of bottled water to the healthcare workers." Omplim Magatzems also secured 400 tablets and SIM cards from MediaMarkt and Parlem Telecom to enable people to

talk with their relatives in hospital, and their R&D team has also designed and built a respirator prototype, profusers (medicine pumps) and a clear acrylic box to help medical staff avoid infection while intubating patients.
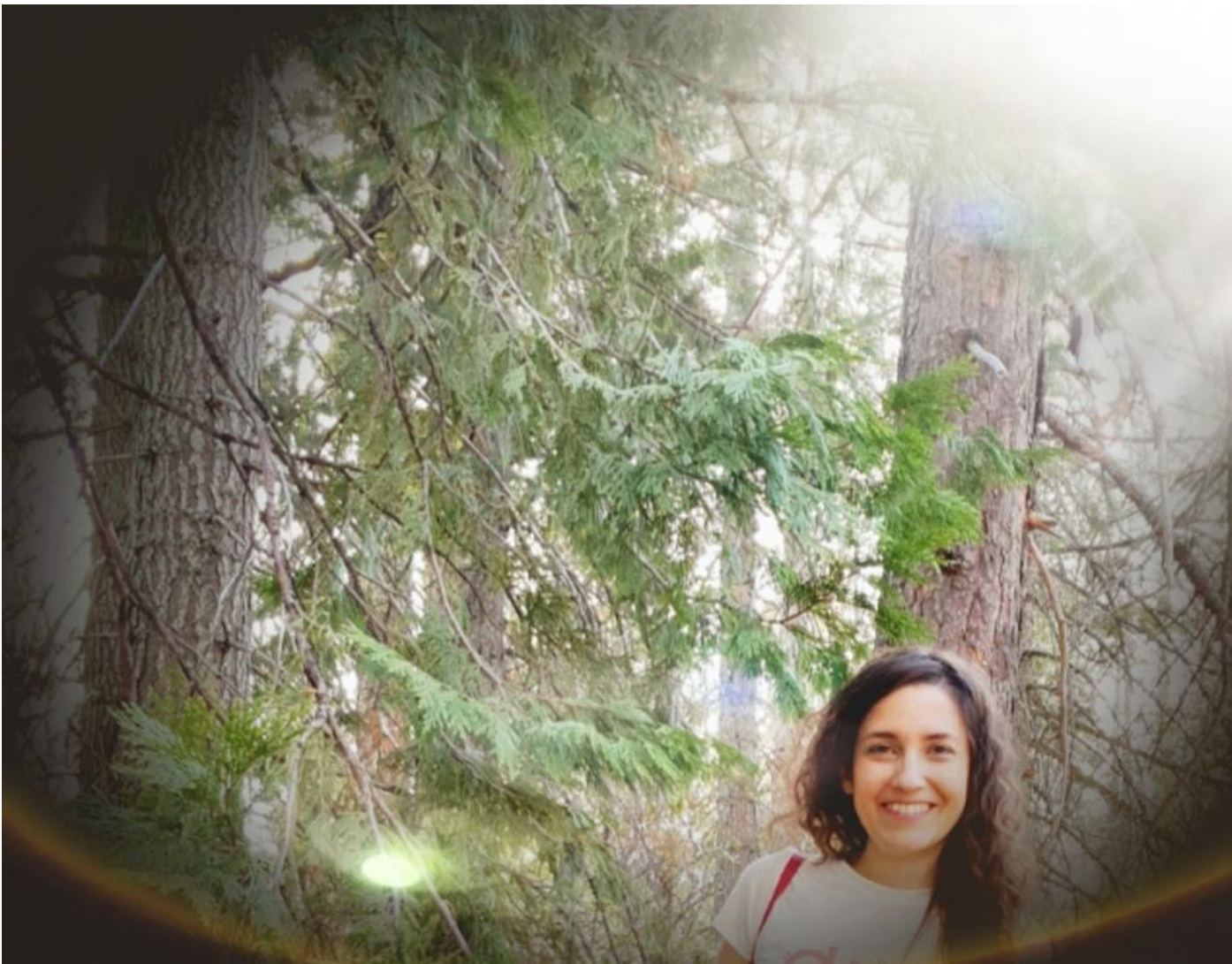
Tena will be joining Bünger for a Futurity Studio webinar this week called "Flattening the Curve and Raising the Bar." The participants will be exploring how global innovators can respond to COVID-19, and what can be learned from the tech and maker community in Spain.

Intubation box   FABCAFE BARCELONA

Rosa Castizo has been working for over 15 years in sustainable development across Latin America. A tireless campaigner for social impact, she is a passionate advocate for regenerative development and radical transformation within the #2030Agenda framework. Speaking from Seville, she reveals that since the outbreak of COVID-19 in Spain she has been working around the clock for over a month. Despite the long haul, she is a generous soul who is clearly energized by her work. "It has been very nurturing for me to be helping in this time of emergency and working 20 hours per day; just look at all the positive things that have been happening in this time."

Rosa Castizo   ROSA CASTIZO

When COVID-19 started developing across Spain, Castizo was quick to identify the most vulnerable members of society, the elderly. "In Ecuador, it is the people with no access to water and sanitation-and people in the informal economy-who are at risk. In Spain, the vulnerability was a lack of information, particularly for those in nursing homes. So with some other volunteers I started to call the nursing homes and now we have now spoken with 2,145. We noticed that many people we talked to had a false sense of security." Castizo continues, "This was dangerous; they were using the masks in the wrong way. So we sent them the right information and equipment. These included the components and plans for a simple faceshield, designed by Cecilia Tham, that anyone can make with office stationary."

The simple face shield design   CECILIA THAM

Castizo also gathered some sobering research during her calls. She found that 1 in

3 of all people who have died in Spain due to COVID-19 lived in a nursing home. She sees the tragedy of the nursing home deaths in the context of a profound loss to society at large, and a loss to humanity. "If we lose the elders, all of us as a society lose our memory and our roots. We lose wisdom and knowledge. We lose an essential part of ourselves as human beings."

Castizo is coordinating the international efforts of the Frena la Curva platform, which matches the needs of citizens with local solutions in 20 countries, mainly in Latin America. The requirements can range from food and help with shopping and children to social innovation projects such as basic rent for people on a low income. She also recommends the Citibeats Latin American platform, which listens to citizen voices around COVID-19. "It is helping a lot to understand people's needs and anticipate solutions. The tool shows us what are people's thoughts on health systems, citizen initiatives, food security, economy and jobs in Latin America. The platform can also recommend actions that have been taken by others, so it's an extraordinary tool that helps us to act."

Water donation by ALDI managed at MOB/FabCafe space   DAVID TENA

Castizo has compiled a checklist on surviving the "Coronavirus Tsunami" and also a list of learnings from other countries. While Castizo's immediate goal is to help save lives in Spanish nursing homes, her mission is the transformation of society. "The informal economy, income and housing insecurity, gender violence, all these problems were there before coronavirus, but they grew exponentially when it arrived. COVID-19 maximizes the problems of society. In the long term, we have to change and reconstruct the system and not go back to the same place we were before." As a piece of graffiti in Hong Kong reads, "We cannot return to normal, because the normal we had was precisely the problem."

Vice President of the Government of Catalonia, Pere Aragonès with Alba Vergés, Minister of Health of ... [+]

GOVERNMENT OF CATALONIA

The results of the innovative, open approach between government, the health sector and the maker and NGO communities are becoming clear; the spontaneous collaboration has undoubtedly saved many lives. Pere Aragonès, the Vice President and Minister of Economy and Public Finance of the Generalitat de Catalunya shares his gratitude. "The productive fabric of this country is exemplary, from small-scale private initiatives that are helping to make masks or the distribution of medical equipment, to large industries such as the automobile industry where R&D innovation has adapted production to make respirators. In fact, more than 1,000 Catalan companies have offered their technology to deal with COVID-19. We have a leading business ecosystem in all areas, also at a European level, and it is demonstrating its initiative, but above all, its commitment and solidarity in the face of this emergency."

One must hope that this brave new sprint of tech-powered cooperation can indeed lead to a better society; but a time of mourning, reconciliation and healing will also be needed. This morning in Madrid, the statue of the Spanish poet Federico García Lorca was covered with a facemask. As García Lorca said in his poem *Lament For Ignacio Sánchez Mejías*, the aftermath of tragedy needs to be faced with a courageous and honest soul.

"I don't want to cover his face with handkerchiefs

that he may get used to the death he carries.

Go, Ignacio, feel not the hot bellowing

Sleep, fly, rest: even the sea dies!"

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Oisin Lunny

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I have worked in music and technology since the '90s and shared my related musings in places like The Guardian and CNN. Today I am Professor of UX Driven Business at... **Read More**