

Patent Rights and 3D Printing Applications in Response to COVID-19

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Abstract

COVID-19 has already caused far-reaching negative impacts not only on health but also on the social and economic well-being of the global population. 3D printing offers promise in relation to much needed health technologies associated with COVID-19. Additive manufacturing, which allows the rapid conversion of information from digital 3D models into physical objects, is uniquely well-positioned to support the shortage of critical medical devices by enabling customization and printing of devices in a timely and cost-effective manner. This resilient technology proved its worth in delivering critical components in a timely fashion under extraordinary time-pressure, despite all odds that negatively impacted conventional supply chains during the pandemic. 3D printing played a key role to scale up the manufacturing of personal protective equipment (like face masks, face shields, and powered air-purifying respirators), medical and testing devices (like ventilator splitters, nasal swabs, and point-of-care testing devices), and useful accessories (like mask adjusters and hands-free door openers) in response to COVID-19.

Although 3DP technology is well-positioned to deliver critical medical supplies in COVID-19 health emergency, patent exclusivities potentially constrain its key role. The current global health crisis put a fresh light on the issue of patent exclusivities and affordable access to innovative health technologies because most of the 3D printable medical devices are protected by patents and other intellectual property rights. This paper examines the issue of patent exclusivities being at odds with access to critical 3D printable health technologies during COVID-19 crisis. It undertakes an in-depth analysis of the 'Right to Repair' exception and evaluates the possible use of different policy options (like compulsory licensing, voluntary licensing, and patent opposition) to mitigate patent barriers. This study is crucial because access to necessary health technologies, in a pandemic context, is a matter of life and death for millions of patients around the globe, especially for underprivileged patients in resource-constrained countries. This study will help policymakers at national and international levels by contributing to the debate over intellectual property and the scope of 3D printing in response to the global health crisis.

Keywords

3D printing, access to health technologies, additive manufacturing, COVID-19, patent exclusivities

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