

Intelligent Materials

With the increased digitization and growing complexity of the modern world, we quickly find ourselves in a world where we are very much dependant: not only on the technology to do the work for us, but for other people to understand the technology itself. Increasingly even specialization is needed to use tools, let alone build or repair the tech itself, meaning when something goes wrong you are increasingly at the mercy of other people to help you. This is compounded the further we move down in scale, as when we begin messing with biology and atoms, issues you cannot fix or even understand yourself becomes a huge problem should things go wrong. Regardless of this outstanding issue, the push towards more complex development, while mired with some issues, by and large find many solutions to modern problems by mimicking things in nature. Replicating these features and concepts with physical objects is a long and arduous task, but the pay-off can be huge. Furthermore, the production of these objects can be made more accessible by 3d printing, bringing production to the homefront. While most current 3d printers handle form, specialists theorise that soon function will be able to be produced in a single part, going from making the structure of an object to making the working object itself, and this can extend even to biological things. The push for these intelligent materials also pushes the forms of new and immerging technology: an object could theoretically now preform any number of functions so long as it's capable of transforming itself to suite the task given, which opens up a huge number of possibilities. By developing these new intelligent materials in both the mimicking of the natural world and the control of smaller and smaller components of reality we push toward new boundaries with what can be done. Materials can now be given not only properties that mimic natural bodies and effects, but also physical behaviors that can be tailored to specific requirements. While if this saw completion would require much retooling and specification towards new construction and production, it would allow for not only solutions to current problems, but also allow for forward thinking to mitigate problems to come. Ultimately this is a developing technology, but it still an important question to be asked: it's not "can I make an object to do this" but rather "is there a material that solves my problem for me".