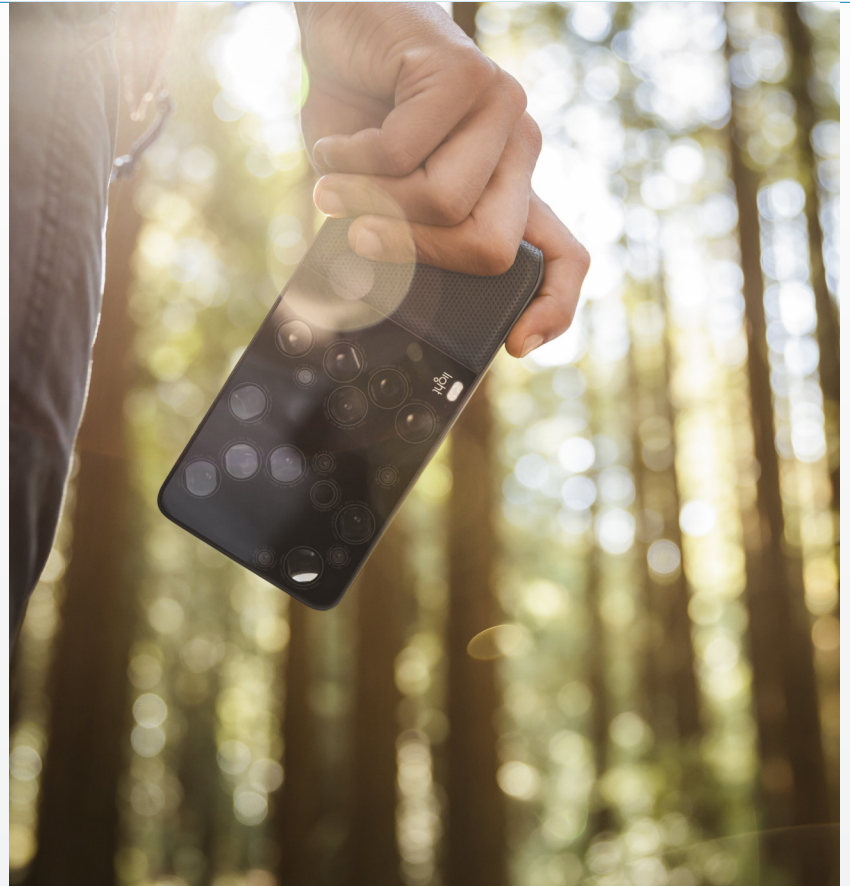


Letting the Light In

Realizing most people were turning to their cell phones for always-on photography, Light set out to develop a new type of camera. One that the convenience and portability of a cell phone with the high image quality of a DSLR rig.

To make this groundbreaking and highly precise technology perfect, they knew there was only one manufacturing process that could meet their extraordinarily tight spec — and that only Dynacast could build it.



Courtesy: Light (<http://light.co/>)

TODAY, EVERYONE'S A PHOTOGRAPHER

You see it everywhere: people of all levels of skill and enthusiasm, snapping images with their smartphones at the instant something interesting happens, and then publishing them to the world within the moment.

But those images aren't the best quality, given the optics and the processing limitations of our smartphones—consumer devices that are pressed into service for so many tasks that photographic imaging is not a priority for manufacturers.

On the other hand, having an easy-to-use camera always ready gives the smartphone size and shape a distinct advantage. DSLR cameras are cumbersome and difficult to have at the ready for that impromptu moment of photo magic.

CONVENIENCE MEETS QUALITY

The innovators at Light saw that smartphones were just not good enough for people who want to capture emotional, never-to-be-duplicated life moments with the professional quality that a DSLR could.

Their invention, the Light L16 Camera, employs 16 internal camera modules of multiple focal lengths simultaneously—letting in maximum light—then sews the images together computationally for a high-quality finished photo with nearly infinite depth-of-field control. All in a chassis the size of a cell phone.

So that chassis had to be perfect.

SHEDDING LIGHT ON THE CHALLENGE

Setting out, Light knew they needed the chassis to be kept as small as possible, and required a cost-effective option for a go-to-market product.

As work began, it became clear just how difficult it was going to be to build the product with such small dimensions, given the varying sizes of the internal components.

One very simple, but cost-prohibitive, alternative kept coming up—CNC machining. The problem? CNC machining the part costs five times more than die casting.

Calling on past experience with Dynacast, Jennifer Hochstatter, VP of Operations at Light, knew they could help.

“Let there be no mistake: it was very challenging on Dynacast’s side to make this happen. We were demanding of die casting. They were up for the challenge, taking a risk on a small, unproven company, and they made it work,” says Jennifer.

SEEING THE PROCESS THROUGH

The biggest hurdle during this project was creating the die cast part—at the size required—so that it could be duplicated on a scale of mass production.

That’s where Dynacast’s expertise came in—handling very tight tolerances and making very thin and small wall sections that are manufacturable on a large scale.

“This camera is really pushing the boundaries of what die casting is capable of. That’s why we required Dynacast’s help, in being able to accept those incredibly tight tolerances and really demanding specifications,” says Jennifer.

Secondly, with the incredibly complicated internal optics—mirrors bouncing light into

sensors in tightly calibrated conditions—it was vital that the technique Dynacast used to finish the interior surface allowed for no reflection whatsoever. Likewise, the external surface required cosmetic painting to create an attractive consumer look rather than an industrial-looking fabrication.

“That processing also isn’t easy to get just right,” according to Jennifer. “That’s something else Dynacast could do, their ability to paint on an anodization. The type of aluminum material we’re using is very unique, and they’re one of the only ones in the world that can do it.”

INVESTING IN INNOVATION

“Having Dynacast be a part of this project, they’ve proven themselves to be a true partner, willing to buy into the dream that this camera is going to be a game-changing innovation,” says Jennifer.

Thanks to their strong commitment to collaboration, Dynacast was able to develop the ideal solution. Light has made their multi-aperture computational camera a reality, without having to compromise on camera size, manufacturing cost, or overall aesthetic design.

“We were able to use our expertise in highly difficult manufacturing, secondary ops processing, and supplying cosmetic services to meet all of Light’s needs.”

DYNACAST

To learn more or discuss your own project, please contact a local sales engineer at www.dynacast.com/contact.



Courtesy: Light (<http://light.co/>)