For Immediate Release

Licella and BioLogiQ join forces to accelerate commercialization of Cat-HTR™ technology in Australia, to chemically recycle post-consumption plastic that would otherwise not be recycled.

Sydney, Australia – Wednesday 8th January 2020

Australia consumes 3.4 million tonnes of plastic each year, of which only 9% is recycled[1]. Licella Holdings Ltd ("Licella"), global technology pioneer, is delighted to announce a partnership with BioLogiQ, Inc. ("BioLogiQ"), bioplastic innovators, to drive towards a circular economy for plastics by accelerating the commercialization of Licella's breakthrough Cat-HTR™ ('Catalytic Hydrothermal Reactor') chemical recycling solution.

Licella and Australian partner iQ Renew, with the support of BioLogiQ, will commercialize the Cat-HTR™ technology in Australia, while global partner Mura Technology ("Mura") will be working alongside BioLogiQ to bring the Cat-HTR™ solution to China.

The Cat-HTR™ technology is able to recycle End-of-Life Plastics, which would otherwise be sent to landfill, back to the chemicals they originally came from. These chemicals can then be used to make new plastics, a truly circular solution for post-consumer plastic.

Licella CEO, Dr. Len Humphreys, said, *"At the heart of the Licella and BioLogiQ partnership is a shared vision for a more sustainable future. By pioneering a circular solution for all plastics, we can utilize the massive amount of plastic already in circulation as a resource, preventing plastic from leaking into the natural environment, reducing our need for fossil oil and significantly reducing carbon emissions."*

Chemical recycling with the Cat-HTR™ technology plays an essential role in transitioning to a circular economy for plastics, helping to close the loop by recycling previously non-recyclable plastics. Chemical recycling supports the established waste hierarchy, with significant carbon (CO_2) emission reductions compared to Waste to Energy (incineration). In fact, converting End-of-Life PE (polyethylene) to liquid hydrocarbon products with the Cat-HTR™ process creates 80-100% more value than Waste to Energy, and produces 45% less CO_2 emissions.

Unlike techniques such as pyrolysis, the Cat-HTR™ technology can recycle a blend of End-of-Life Plastics that include polypropylene, polystyrene, soft plastics (low density PE) and multilayer flexible plastic packaging, without the need to sort plastics into a single stream. This process flexibility increases the total quantity of plastic that can be recycled and therefore the process economics. The Cat-HTR™ process produces a high yield of oil from plastic (around 85% oil, with the balance as gas that can be recycled to power the process).

BioLogiQ Founder and CEO, Brad LaPray, said of the partnership, *"We believe the Cat-HTR™ technology has cracked the code of scalable, efficient, and economical chemical recycling. This collaboration represents an investment in our future. BioLogiQ customers will know they are supporting a bioplastics company that is as seriously committed to recycling as themselves. By accelerating and supporting the commercialization of chemical recycling, BioLogiQ takes another big step in its quest to make plastics better."*

In Australia alone, there is the potential for 20 to 30 commercial-scale Cat-HTR™ plants. With chemical recycling, Licella can recover and recycle almost all plastic we use today, including plastic with a renewable feedstock such as BioLogiQ's own innovative NuPlastiQ® Biopolymer.

Central to the Licella and BioLogiQ partnership is the ongoing support of local and global Cat-HTR™ commercial partners. In Australia, Licella's partner iQ Renew will commercialize the Cat-HTR™ technology for End-of-Life Plastic, while their partner Mura will bring the Cat-HTR™ technology to the rest of world, with a particular focus, alongside BioLogiQ, to commercialize the Cat-HTR™ technology in China. With China effectively banning the import of foreign waste in January 2018, a huge opportunity exists to build Cat-HTR™ chemical recycling plants to help deal with China's own massive quantities of post-consumer plastic. By accelerating the Cat-HTR™ solution globally, this alliance is helping the world deal with the estimated 111 million metric tons of plastic waste that will be displaced by the Chinese import ban by 2030[2].

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Media Enquiries

Licella: Andrea Polson – andrea.polson@licella.com
BioLogiQ: Bruno R. Pereira – bruno.pereira@biologiq.com

Media images are available here:
https://www.dropbox.com/sh/2k35f1uw7jn2y86/AADBuvhD4Bd-W49lbII4SqOoa?dl=0

About Licella

Licella has spent the past 12 years developing its proprietary hydrothermal upgrading platform, the Cat-HTR (Catalytic Hydrothermal Reactor). Cat-HTR technology has been extensively tested over a range of renewable biomass and End-of-Life Plastic at Licella's large scale continuous-flow pilot plant on the NSW Central Coast, an hour north of Sydney, Australia. The synthetic oil from the Cat-HTR™ process can be refined to chemicals to produce new plastics, used to produce more sustainable fuels and waxes, and has applications including road base and low sulfur marine fuels. With over AU$75M invested in the Cat-HTR™ platform, it is now commercial-ready. Licella is working with strategic partners to build the world's first commercial-scale hydrothermal upgrading plants. The Cat-HTR™ platform can be fully integrated within partner's existing infrastructure, to provide a brand new revenue stream to industries such as pulp and paper and resource recovery. By doing so, Licella is helping to provide a high value proposition for its partner's low value residues, diverting plastic from landfill, incineration and the natural environment and reducing reliance on virgin fossil crude.

For more information visit www.licella.com and watch our video here.

About BioLogiQ

Founded in 2011, BioLogiQ, Inc. of Idaho Falls, makes a unique biopolymer branded NuPlastiQ®. The company's mission is to make plastics better. NuPlastiQ® is the evolution of Thermoplastic Starch (TPS). NuPlastiQ® blends with legacy resins to reduce fossil fuel-utilization and greenhouse gas emissions. Blends maintain, or even enhance, the performance of both traditional plastics and biodegradable biopolymers.

For more information visit www.biologiq.com.

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References

1 Department of the Environment and Energy 2019. *2017–18 Australian Plastics Recycling Survey – National report*<https://www.environment.gov.au/system/files/resources/3f275bb3-218f-4a3d-ae1d-424ff4cc52cd/files/australian-plastics-recycling-survey-report-2017-18.pdf>
2 Brooks A, et al. 2018. *The Chinese import ban and its impact on global plastic waste trade.* Science Advances Vol. 4, no. 6 sciadv.aat0131