

**- Technology Requests -**

WISTA-MANAGEMENT GMBH is member of the IASP network, the International Association of Science Parks.

IASP is contacting all its members on behalf of P&G, who is looking for companies that their members may have in their Science Parks working on:

**New and novel 3D inkjet printing technologies**  
(printing on 3D objects) (POINT #14)

or

**Alternative leak detection for non-flammable aerosols**  
(POINT #15)

Details of the Technology Requests are as follows:

<p align="center"><b>New and novel 3D inkjet printing technologies</b> (POINT #14)</p>	<p align="center"><b>Alternative leak detection for non-flammable aerosols</b> (POINT #15)</p>
<p><b>Background:</b> Package and decoration/printing is a critical aspect of consumers’ decision to purchase a product. P&amp;G are interested in <b>new and novel 3D inkjet printing technologies</b> that can increase the consumer appeal of products and/or efficiently deliver a variety of actives onto surfaces.</p> <p><b>Innovation need:</b> P&amp;G is looking for existing or new proprietary inkjet printing technologies and/or potential partners for upstream development of such technologies with capabilities to: 1) Print on three dimensional objects (packaging and products); and/or 2) produce controlled liquid deposition of a variety of functional materials onto curved surfaces.</p> <p><b>They are looking for</b> any inkjet printing innovations with capabilities for:</p> <ul style="list-style-type: none"> <li>• Printing on “preformed” 3D objects, particularly 3D objects with high degrees of curvature. (They believe printing on a flat surface is readily known</li> </ul>	<p><b>Background:</b> Aerosol products need to demonstrate certain performance standards for leaking to meet regulation requirements. Leak testing, as defined in regulations, is traditionally done using waterbaths. There is a need for improved alternate leak testing of empty and filled containers that does not involve waterbaths.</p> <p><b>Innovation need:</b> Explore alternative leak detection methods/technologies (with the intent to replace waterbaths) for use in aerosols with non-flammable propellants.</p> <p><b>They are looking for:</b></p> <ul style="list-style-type: none"> <li>• Alternative leak detection solutions that meets UN 6.2.4.2 for a Division 2.2 (non-flammable, non-poisonous compressed gas) aerosol in a non-specified container (&lt;140 psig at 130°F). Specifically:</li> </ul> <p><u>Empty Container:</u> Ability to detect leakage at a</p>

<p>to the trade)</p> <ul style="list-style-type: none"> <li>• Using inkjet printheads to print functional materials (enzymes, lubricants, etc.) onto preformed 3 dimensional objects</li> <li>• Inkjet printheads and process breakthroughs enabling reliable and accurate jetting across throw distances of &gt;3mm</li> <li>• Ways to improve uptime and reliability of inkjet printing processes (via automated printhead cleaning, overspray control, etc.)</li> <li>• Innovations that are perceived by the broader industry as new and different in the field of inkjet printing that brings breakthroughs in quality, efficiency, manufacturing reliability, and capabilities that were not previously possible</li> </ul> <p><b>They are NOT interested in:</b></p> <ul style="list-style-type: none"> <li>• Inkjet printing for novelty items such as pens and mugs (are familiar to us) and not of interest</li> <li>• 3D printing (creation of 3D objects) is out of scope for our interest</li> <li>• Conventional printing (pad printing, tampo printing, screen printing, etc.) on preformed 3D objects is not of interest</li> </ul>	<p>rate equal to or greater than <math>3.3 \times 10^{-2}</math> mbar L/s at a test pressure of 138psig.</p> <p><b>and/or</b></p> <p><u>After gassing:</u> The leak detection equipment must be sufficiently sensitive to detect at least a leak rate of <math>2.0 \times 10^{-3}</math> mbar L/s at 20 °C (68 °F)</p> <ul style="list-style-type: none"> <li>• Solutions that not only detect, but also reject any container showing leakage, deformation, or other defect with automated process</li> <li>• Preference is for a system with both empty &amp; after gassing solutions, nevertheless, we will consider stand alone units that can be at different locations</li> <li>• Preference is for solutions with minimal carbon footprint and efficient to manage on-going operating cost impact</li> <li>• Potential to expand scope to include method development, validation, and compliance for regulatory approval and/or exemption in US and other regions</li> <li>• Preference is for fully developed and commercially used solutions in other industries, nevertheless, will consider solutions that require minimum development for adoption with demonstrated proof of concept</li> <li>• Alternate leak detection methods should be scalable and compatible with automation at manufacturing plants</li> </ul> <p><b>They are NOT interested in:</b></p> <ul style="list-style-type: none"> <li>• Post fill leak detection solutions that require product doping</li> <li>• Ambient or hot waterbath variants</li> <li>• Solutions that subject container to more than 150 psig for prolonged periods of time</li> <li>• Solutions that subject container to temperatures greater than 50° C for prolonged periods of time</li> </ul>
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If your company offers such a technology please fill the related profile document (#14 or #15) and send it back to [Plaschnick@wista.de](mailto:Plaschnick@wista.de) by

- **24<sup>th</sup> October for POINT #14** and
- **30<sup>th</sup> October for POINT #15.**

We will forward your document directly to the responsible person at IASP, which is in direct contact with P&G. Please note that P&G selects those companies that are of interest for them.