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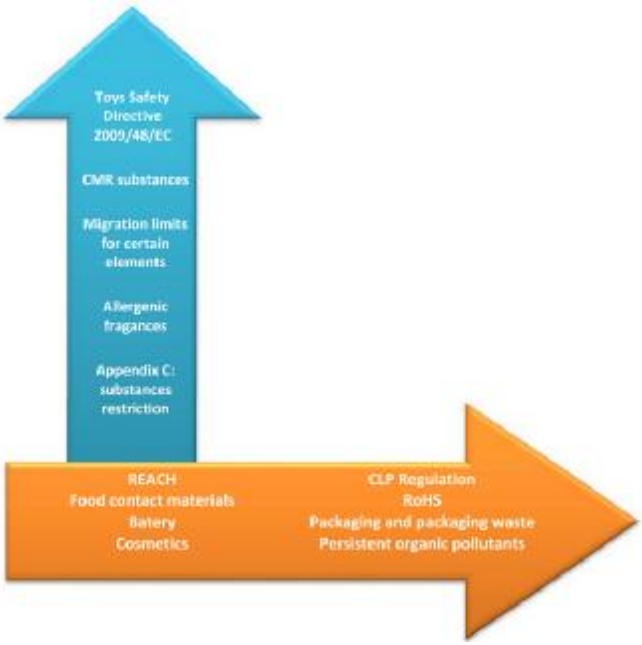
Implications of the safety issues in the toy sector

One of the primary challenges of the iBUS platform is to deliver safe toys which meet all the standards and legislative requirements the products need for sale. In fact, the EU Toy Directive 2009/48/EC is one of the most stringent worldwide which enhances the safety level of European toys. The potential implication of not meeting this requirement can lead to prosecution, primarily for the manufacturer. The manufacturer of a toy is responsible for verifying that its products fulfil the safety requirements, the compiling of the corresponding reports, assessments, data sheets and certificates from their suppliers and ensure the products traceability. If a toy is produced for sale, via for example a 3D printing technology, then the producer becomes the manufacturer under the EU Toy Directive 2009/48/EC.

The Toy Safety Standards has 14 sections which include physical & chemical testing. In addition, other requirements such as EN62115, in the case of electrical toys or CMR substances, and other horizontal requirements such as REACH or RoHS may also need to be met. Additionally, for children under three years, the requirements are even stricter, especially those regarding small pieces that represent choke hazards. Moreover, there are special requirements according to the type of toy (mouth-actuated toys, toys which a child can enter, toys intended to bear the mass of a child, projectiles, etc.).



Being integrated, the iBUS business model aims to automatically deploy safety legislation and EN-71 standards in the design platform, in such a way that, when the home-based designer creates their design through the iBUS platform, all the safety requirements are included.

This concept, although apparently achievable, is actually one of the most difficult challenges the iBUS project development faces. There are some aspects of the EN71 standard and associated legislation that can be represented as business rules and parametrised. Their compliance can be verified via a computer based process. There are other safety requirements that will require the skill and judgement of a child safety expert to verify the compliance of all product configurations prior to their offer for sale. In some cases, computer based algorithms will augment these manual safety evaluations. In cases where it not be possible to simulate in a computer it may be necessary to physically test the toy in a laboratory environment prior to toy category being offered for sale.

All design and process parameters including the materials used in the iBUS design platform and produced from the supply chain are controlled at all stages so as to ensure the safety of the resulting toy products. That is why a list of approved materials will be used for the production of 3D printed toys. These materials and associated process parameters will be confirmed after detailed chemical tests and mechanical assessment of manufactured samples have been completed. The iBUS supply chain must ensure that these material and process requirements are fully respected to ensure the safety of iBUS toy products.

Would you like to be part of this initiative, we invite you to get subscribed with no commitment to SIG@h2020ibus.eu.

Project News and Activities: First demonstration of the iBUS Product Purchase Journey

The partners of the consortium Limerick University and MANOPT systems have developed the first demonstrator that displays the shopping experience one part of the iBUS platform will provide to the users.

In this experience, the user will be able to view the best-selling products and view them in detail, customise it to suit his/her needs and style, while seeing changes in real-time and see how various configurations influence the price of the product. Once the user becomes happy with the design you achieve the product easily, comfortably and with all the traceability required.

You can see this demonstrator at: https://www.youtube.com/watch?v=D9yI4mDoOCQ.

Publications/ iBUS in the press

In this section, you will have access to a series of press links on publications and dissemination actions carried out by iBUS project:

- iBUS: EU unterstützt Projekt zur Entwicklung von Plattform für 3D-gedrucktes, individuell gestaltetes Spielzeug
  https://3druck.com/forschung/ibus-eu-unterstuetzt-projekt-zur-entwicklung-von-plattform-fuer-3d-gedrucktes-individuell-gestaltetes-spielzeug-1454647/
- Insertion of the iBUS project in the AM-Motion AM related projects list: http://www.am-motion.eu/am-mapping/am-related-projects.html

iBUS at MESIC 2017

The partner of the Consortium AIJU attended the 7th Manufacturing and Engineering Society International Conference that was held on June 28th – 30th in Vigo (Spain). This biennial conference, aims to share knowledge in the field of Manufacturing Engineering. It is a meeting point for researchers from industry, research centres and Academia that jointly "*explore the traditional manufacturing models, how they are evolving and how manufacturing professionals should face the resulting competitive challenges in the context of an ever increasing use of digital information systems and communication technologies in the Manufacturing Industry and its transformation processes, taking account the new trends in Manufacturing Industry 4.0*".

AIJU had an accepted paper titled "*Innovative functionalised monofilaments for 3D printing using fused deposition modelling for the toy industry*" which includes a part on products customisation where the iBUS project is displayed and acknowledge.

Dissemination events attended by iBUS

Partner/s	Event	Activity Type	Audience Size
AIJU	CEP 3D PRINT	Presentation	90
AIJU	Made From Plastics Fair	Stand – Leaflet	30
AIJU	ADDIT3D	Stand - Leaflet	50
SHH	Toys and Game association Workshop	Presentation	25

Upcoming Events

Maker Faire Nantes

Date: 7th – 9th July

Venue: Nantes (France)

Maker Faire Bodensse

Date: 15th – 16th July 2017

Venue: Friedrichshafen (Germany)

TCT Show 2017

Date: 26th – 28th September 2017

Venue: Birmingham (UK)

12th International Conference On Additive Manufacturing And 3D Printing

Date: 11st – 13th July 2017

Venue: Nottingham (UK)

Maker Faire Hannover

Date: 25th – 27th August 2017

Venue: Hannover (GE)

3D Printing Summit

Date 28th September 2017

Venue: Berlin (GE)

Co-ordinators message

We are very happy with the product purchase journey video that has been issued and displayed at our website, social media and Youtube. We would be even happier if you can provide us your feedback.

And please, do not hesitate to get subscribed to the Special Interest Group contact list. Being a component of this networking list, you will be able to test and validate the parts of iBUS virtual outputs as soon as it is made for the public validation. Please, subscribe at: h2020ibus.eu.

You can also follow us through the iBUS social media Twitter @DesignIBUS and Facebook.