CIRPASS Final Event
5 March 2024 | Brussels and online

Questions & Answers

This document presents the Questions received and Answers provided via the *Slido* platform that was active during the CIRPASS Final Event. Please note:

- The Q&As have been organized into categories, to help readers find content of most interest to them.
- The Q&As have been anonymized and the answers provided reflect the opinions of the authors. The answers and online discussions amongst participants **do not** represent the official opinions of the European Union (EU), or the Battery Pass, CIRPASS or Product Information 4.0 projects. Nor do the EU or projects endorse specific organisations or products referred to in the discussions.

Q&A Categories

Funded by the European Union

Digital Product Passport (DPP) purpose and impact

Questions	Answers and discussion
As user it's nice to know material data about products to make informed purchasing decisions. However, isn't it more important to focus on data transfer from producer to repair/recycling company so materials can actually be returned into the technical cycle?	There are different opinions on that. Certainly for (EV) Batteries, we at www.thebatterypass.eu find that the B2B applications have far greater potential for the Circular Economy
	in UNTP we assume that that the manufacturer has no idea who will eventually repair/recycle (potentially after years of use). So, the data is not exchanged directly between actors - it is discoverable from product identifiers. So, when the recycler receives the product then they can get the data
	That is exactly the idea of a DPP. The DPP has three target groups: Authorities, B2B and End-Consumers
	Right. Again, underlining the need for interoperability. I'm curious how that will be effectively established in construction materials. Personally, I think the main motivation should be reuse at end-of-life.
Can and will the material information in DPPs be used by the governments and/or stakeholders to project and plan recycling/ remanufacturing capacities in the sense of projecting the future accumulated secondary raw material sources for urban mining? This could be an interesting benefit.	In general, the DPP will enable this. However, it will take a few years of lead time, depending on the sector, until there are sufficient products with a DPP on the market that would allow circular economy operators to plan their recycling and remanufacturing capacities based on DPP data.
	This capability would largely rest on the specification by the Commission whether aggregation of DPP information (ie investigating more than one DPP at a time) would be permitted via the Data Portal, and by who. This is not yet conclusively defined.
Can the DPP used for exchanging data on parts and components?	That will depend on e.g. delegated acts for sectors. However, since DPP shall support Circular Economy, information on components etc. and repair information shall cp be included.
	The technical answer is YES, but this is independent of the regulatory requirements. The DPP system can be easily used for non-mandatory data like info on parts and components
	Information about components and parts need to feed the DPP. Ideally, the upstream products would have a DPP like information package fulfilling same criteria, particularly, interoperability and thus standardization of content and IT. Favorite use case is aggregation of cradle to gate PCF.
CBAM, EUDR, CSRD - will all these be overruled by ESPR/ DPP by EU commission?	All of the different sustainability-related EU regulations aim to contribute in a complementary way to the vision of the European Green Deal, i.e. striving to be the first climate-neutral continent.
	For economic operators point of view, it will be better to have ONE single way of dealing with it rather implementing parts by parts and looking at them simultaneously as varying legal requirements . Has this been thought of?

Funded by the European Union

	The issue of double reporting of sustainability information has been discussed. There have been considerations to make the DPP part of the solution to this challenge. However, as the different regulations require different data for different purposes, it appears hardly feasible to unify this.
Has CIRPASS program already seen potential drivers for DPP (along with upstream supply chain integration) based on EU Deforestation Regulation? Is this Regulation also accounted for in TU Berlin and UBA's Product Information 4.0?	for UNTP the first pilot was exactly for EUDR compliance of AU agricultural exports
How close is the DPP with the Green Claims directive?	The DPP could be considered complementary to the Green Claims Directive, as it would be a potential means of providing evidence for substantiating voluntary green claims.
How do we ensure that the benefit and purpose of DPP (activate circular economy, reduce environmental impact and generate less waste) will not generate extra data and servers running... polluting as well?	This why the last version of the SReq aim to: "limit the energy consumption of the product passport"
	Limit, but not emissions agnostic - the system with a constant uptime will generate CO over years and decades it is running, especially when the idea gets implemented in other jurisdictions. Is there a provision to ensure that the system will rely on green/renewable sources of energy?
	I'd also place it in perspective. The impact of using DPP's and the data stored is even in a worst-case scenario minimal compared to the impact of material use. If we can use the DPP to take steps there, the overall impact will be positive.
	Good question. Nobody has done a full assessment for all industry sectors. The assumption is that it is worthwhile to also recover raw materials. But a study should be done
Looking at those mandatory requirements, does it mean it's mandatory to have that information in DPP or does it mean that product needs to have those attributes, for example, recyclability?	The requirements related to DPP regulate the former. Whether such attributes need to be present for products is covered separately in regulation.
Related to Green directives, how will DPP ensure that data is not used to rating products in distributors, etc? should it be?	There is no limit to rate things based on public data. But we assume that the interesting uses, recycle and repair, will not happen in public. In any case, everybody is already free to rate things in public portals, e.g. amazon
	thanks, then where can we find what are the public and restricted data defined?
Was there any evaluation of the environmental impact of the DPP system itself?	Good question! Especially when integrated with blockchain technology.
	It is being investigated. Note that use of blockchain is by no means a given. One would also expect that the DPP concept

	will be somewhat adaptable to dynamics and new opportunities.
Would the DPP make it easier for companies, especially SMEs, to access sustainability related information like GHG emissions or energy consumption for (mandatory) reporting purposes? Would these data points be accessible for free or purchased from a DPP service provider at a charge?	This is our hope. If the DPP system is useful, it will not only be a list of mandatory data points
	This is exactly one of the value propositions for UNTP. We expect that this data is always discoverable from product identifiers and so is always available to buyers of products.
	Yes. As specified in the ESPR, company restricted data must be made available by the economic operator to any legal person with "legitimate interest" upon request. Meanwhile the collection of relevant data should become easier particularly for SME as they can use DPP service providers or groups
	Different DPP service providers will have different pricing models, I guess. But given that this kind of data should always be discoverable from product identifiers, it's hard to imagine how a data access paywall would even work.
	I'd imagine most DPP service providers would charge to publish, not to read.
	Would company restricted data be made available by the economic operator upon request for free or would they come at a cost?
	Excellent, thanks for clarifying.
You talk about CO2 emissions avoided, but what about the quantity of materials recycled and therefore potentially reintegrated into the manufacturing process (slide 6)?	We also analyse this in a separate case. We found that recycling operators could benefit from several data points on the DBP, such as high-resolution material content, disassembly information, safety information. Keep your eyes peeled for the full analysis in the coming weeks on our website!
	Thank you

Economic operators, products & components

Questions	Answers and discussion
A basic question, is DPP also physical product relevant (since the name Digital Product Passport)? A DPP should be issued by the company who puts the product on the market? How is "putting on the market" defined? Example: does a raw material company have to issue a DPP or the distributor?	Yes. The DPP is the information system centered around the physical product. A product is uniquely identified and its DPP is reached by a physical data carrier attached to the product.
	The 'Blue Guide' on the implementation of EU products rules defines in section 2.2. what making available on the market means: a product is placed on the market when it is made available for the first time on the Union market by a manufacturer or an importer.
	"When a manufacturer or an importer supplies a product to a distributor or an end-user for the first time, the operation is always labelled in legal terms as 'placing on the market'." (The 'Blue Guide' on the implementation of EU products rules 2016)
As for the "economic operator" for the Battery Passport, which will it be in the following cases; a a) manufacture of the battery outside of EU, b) assembler in EU, using the imported battery from outside of EU?	That depends. Whoever places a product on the EU market or puts a product into service on the EU market is the economic operator. In this case it could be either a) or b).
As noted in Michele Galatola's presentation I understood that 2 required components to be included in the DPP registry are the: Product Identifier Economic Operator Identifier Entity Systems is developing software which will create DPPs. How can we generate these identifiers for our clients?	I don't think you'll generate them. I think you'll use existing identifiers. For example, VAT registration iD for entities and GS1 GTINs for products.
	Sorry, not Product Identifiers, Facility Identifiers was what I'm not aware of how to generate them. Thanks, that makes sense with the VAT identifier for the Economic Operator
	Following on about Facility Identifiers: An economic operator already using GS1 identifiers (e.g. GTINs), may have GLNs for all their facilities. I would hope those could be used as Facility Identifiers in DPPs. Anyone know?
Can we expect a list of unique identifiers and how they are together used in DPP life cycle?	Please check the identification scheme report. https://cirpassproject.eu/project-results/
Can you explain whether the DPP set up/creation will be equally simple whether on model/batch/item level?	Yes, the issues start when you want to go from model level to instance level. This is not an issue for GTINs as they just expand to the right. But others will have to do the same
	You need one time a clear organization of the data flows. And request the right support by your IT provider!
	Is it accurate to say that a DPP on item level will mean serialisation?
	And a DPP on batch level will require a new DPP for every batch manufactured?

	Yes, item level will require serialisation.The digital ID creation process is quite simple follow GS-! digital link protocol. Basically, in simple syntax GTIN/Batch/Item ID. This being the trigger (primary/secondary and tertiary key to connect to the DPP data)
Considering prolonging product life of the existing which sold products prior 2027 (the enforce of DPP) then reuse, resale, etc. are encouraged; can you link me to any persons/forums that discuss and provide guidance for DPPs for resold products?	Reuse and repurpose must be differentiated for this question. A new DPP must be issued (by the new economic operator) when a product is repurposed as it must be placed on the market anew
	That means a product sold prior to the required DPP that is only re-sold (re-used) without any change does not need to be placed on the market again and will likely not need a DPP
	Within CIRPASS 2 there will be a textile expert group, which might be open for externals. Check back in July, then we should know more.
	That means a product sold prior to the date, when a DPP is required, and that is only re-sold (re-used) without any change after that date does likely not need to be placed on the market again and will likely not need a DPP
Does an upstream supplier. e.g. a trims supplier in textiles require to have a DPP? Is batch traceability essential to verify your products?	If textiles have track & trace, it is the goal to re-use that information and carry it forward as DPP
	It is the economic operator who puts a (textile in your case) product on the market who is responsible for collecting data from its suppliers. This can be done via several ways. If a DPP for the supply exists, that would be one way.
	so, my first question is no. Is batch traceability essential to verify your products?
	See Patrick Gehring's presentation where he clearly distinguished between the DPP itself and the data collection from upstream.
	It is not clear, and I would appreciate if someone can clarify, is DPP required at product/sku/gtin level or batch level or item level?
	Would be happy with a yes/ no on batch traceability. how do I find Patrick Gehrings presentation with hopefully a clearly defined answer? (Hopefully notone of these 200-page pdf mentioned!)
DPP are described for new products, any discussions and guidance for DPPs for resold products? Obviously the identity need to be at item level and the identifier attached/integrated when resold or refurbish.	Agree. Therefore, it would be helpful if the identifier is on item level from the beginning when the product is produced.
	Agree. Therefore, it would be helpful if the identifier is on item level from the beginning when the product is produced.
Hi, still unclear for me if you have a DPP for every individual item (every serial number) ? Or is this	Agree, in the case of batteries, it will be on an item-level due to the individual use phase

dependent on the kind of product? E.G. a car:yes, a machinecontroller :no.	
How are DPPs from components aimed to be included into the DPP of an assembly of different components from different suppliers?	In UNTP the DPPs for input raw materials are separate to finished product DPPs - but are linked through traceability events (e.g. these bales of cotton were consumed to make this batch of woven cloth would be a "transformation event" that links input passports to output passport.
How can the economic operator support the DPP system for a product that he put into market and never come back to him again? Decentralisation means, so that once the DPP is launched by Economic operator he doesn't have to manage its lifecycle?	The economic operator operates the information system related to the DPP. Others are free to also make an information system, but only the EO is able to connect them to his own information. The product UID will always point to the EO system
If we are going to start introducing components and raw materials to DPP requirements on top of complete products, will there be a way to link the two so the end user can see the records of the components as well as the overall product?	Yes, it i assumed that DPPs can be linked to other DPPs
Is it intended to make the information on "country of origin mandatory? Which will be the principles to determine this country, especially for complex products?	This will depend on the delegated acts according to Art. 4 ESPR. Track & Trace and DPP use a similar technical system, so part of the Track & Trace could be your DPP
Is the Product Pass production batch related? How to deal with changing raw material data on different batches?	Granularity (Model, Batch, Item) will be regulated in sector specific delegated acts. So, it depends...
It was mentioned that the DPP is only valid once the product is in the market. How does it work for upstream products in the value chain? For example, the chemical components of batteries and textiles - do they need DPPs or would they just need to share data?	they would be separate but linked DPPs.
	or they can be merged when assembling the DPP. The decisive point is the product UID that leads to the data
	may not be regulatory enforced DPPs though. Might just be voluntary passports that carry differentiated sustainability data from upstream suppliers.
	Our operating assumption is each unique product (or even consignment) ID has its own "DPP".
It was mentioned that the DPP is only valid once the product is in the market. How does it work for upstream products in the value chain? For example, the chemical components of batteries and	Thank you all
	I don't see the question is answered at all, do upstream suppliers need to have their own DPP? If not, what does it mean for them. Does a screw in a phone require a DPP!?

textiles - do they need DPPs or would they just need to share data?	
Still on key question missing: At time of purchase, you do not know which variance you will get (you buy a SKU and get an item of a batch), so how will buyers make informed decisions unless you aggregate the upstream variances in the downstream scenarios. This is where the cost will be!	The industry will need to redefine certain processes and use standards and matching IT support. Good point, but we will need to change certain sourcing processes, like e. g. "we buy where the light is on, and the price is right".
	Most of the information relevant for buying decisions should be quite similar amongst products of the same SKUs (not necessarily 100%, but maybe enough to make an informed decision) - after production, more details can be added on item level for other downstream scenarios (e.g. repair/recycling)
	Thanks, but let's take an example on the Tesla Model 3 holds an 80-kWh lithium-ion battery. CO2 emissions for manufacturing that battery would range between 2400 kg (almost two and a half metric tons) and 16,000 kg (16 metric tons). variances are much larger in reality than most think.
	And if we look at clothing let's look at animal fibers: Wool from sheep is the animal fiber produced in the largest volume. Climate impact of wool fibers range from 1.7 to 36.2 kg CO2 equivalents per kg fibers (excluding CO2 sequestered in the fiber).
what is the definition of "place in market"? does it include B to B products? In case of textile industry, only Apparel are scope of ESPR, or textiles used for apparel production are also in scope of ESPR?	The DPP will not be limited to B2C as visible in the case of batteries.
Who is the economic operator in case of electric vehicle manufacturer. The ev car manufacturer or the battery manufacturer?	This depends on whether the battery was a product introduced into the market or whether the battery was introduced with the vehicle. But it shouldn't make a difference as the vehicle data will probably carry data about the battery from the battery manufacturer
	Thank you very much for your answer! The "market" means the final customer? Or to sell the battery to car manufacturer also means "put on the market "? I try to understand who will be responsible for the first battery passport.
Who will be the owner (responsible person) of the DPP for OEM products? The initial manufacturer or the OEM brand owner?	In the ESPR, the responsibility of issuing the DPP falls onto the economic operator placing the product on the market. It is expected that such operator would need to compile the DPP data from their suppliers.
	Thank you, this is in line with other legislations
Will all the mandatory circularity criteria for products (durability, reparability, etc.) also be	the intermediate products, while not subject to the ESPR, will contribute to the assembly of the final DPP via data re-use. So having the data already for the intermediate product will help greatly. Be prepared 😊

mandatory for intermediate products?	

Data scope & access

Questions	Answers and discussion
A question related to products ownership. DPP of product is decentralised, if not hosted on a public blockchain, how can the strong authentication / information asymmetry be solved/ 'guaranteed' to producers and owners (first and post-first sale owners; as end consumers or life extension actors)?	There are of course the usual access control solutions of the web, but we also address a more advanced system that has corresponding features, but is rather a longer-term vision
Additional point, the DPP proposition does not imply a 'digital twin' of a product / component minted on a public blockchain (with mandatory and additional metadata accessible with different access levels) or does it? If no digital twin minted on a blockchain, authenticity remains problematic	"Digital twin" is the most abused term after "blockchain". While such a system is possible and can serve a DPP, it is not required.
	Thank you, ok? We can say digital certificate if it sounds better 😊. So access to the a product DPP will be through a registry will be controlled, by a centralised entity validated by / as the EU commission with a web portal as gate keeper. I do not get the decentralised part of this infra.
	Governance remains the biggest challenge!
Are there concretely specifications regarding of the identifications of external actors in order to access the secured part of DPP ?	No, identification and enrolling are an issue for supply and repair chains. There are many ways to do that, e.g. using oAuth or eID
	Ok.. means EUDI Wallet is also possible.
Can we please avoid dedicated apps for these? there hasn't yet been a single argument made for them, given that the features shown are all possible using web tech - i.e. web pages. mandating dedicated apps can ruin user acceptance (similar to the cookie reg which is a horrible user experience.).	For consumers, it does not require dedicated apps. But if you're a machine wanting a specific data format, there is no way to make this without some specifics
	non-dedicated here meant that most smart phones implement a scanner that hands a URI to the Browser via mime-type. This works for consumers, but not for industry 4.0
	I'm getting mixed signals - we've had a couple of demos both showing dedicated apps, and a speaker saying that the app gets data and not HTML. can we please clarify? (APIs are the answer...)
	I'm getting mixed signals today, given the demos are using dedicated apps and an explanation given as to why, when the explanation didn't justify using an app. consumers just want simple access to the information without a bank of apps. Retailers/manufacturers want to own the relationship.
	getting in the way of both of these will create another cookie situation.
	Sooner or later installed apps will go away as it is client-server tech for smartphones. But currently, prototyping is considered somewhat simpler with dedicated apps

	yeah - prototyping means speed and that means easy-to-you tooling, but I'm not clear that everyone here will get that and will think 'dedicated apps are the way'.
Data for insights? for trends ? for scenario planning ? 🤖 Are there plans to have a web crawler to gather data from the decentralized DPP ecosystem to understand recycled content, durability, chemicals, repair, etc?	The public data can be gathered freely for those things. But for more sophisticated analytics, we assume that there will be dataspaces with rules for access and usage limitation
How the IP protection is considered especially for private data and risk of revert engineering of product formulation / BOM details / raw Materials sensitive information?	IP protection should mostly be covered by restricted, role-based access policies
How to distinguish between "open" DPP data and confidential data? Will you follow a Data Space approach like GAIA-X?	The degree of data confidentiality shall be elaborated for each product group in the relevant delegated act. Data Spaces can support in the authentication and access control, but the differentiation will be dictated in legislation, similar to the Battery Passport.
How we define the Person with legitimate interest? Will the data be sold commercially for this interest?	Consumer data will be public. Other data will be dealt with in dataspaces creating a data economy
	Our DPP data is closed source when connected to brands SCM then the software bridge disconnected at POS or by request to retain Base Data (traceability). Then it's open source to scan and add data but yes, we will offer metric analysis e.g. council landfill mitigation etc.
	Brands may also be able to link their LCA software through digital bridge too so doubles as collection of LCA data to improve data collection efficiency and in real time for compliance reporting. Depends on software compatibility.
	All data must be made available free of charge
	The definition of persons with legitimate interest and which groups will have access to what data will be specified in a delegated act
In a decentralized system, how can it be guaranteed that DPP information is still accessible after a company goes out of business, is bought, or sells one of its sub-brands to another company?	A requirement will be that a backup DPP is stored by a [certified] third party DDP service provider.
	Which also implies a link resolution protocol that will redirect to backup if primary link target disappears...
	I suppose the EU web portal could be used as a backup in a worst-case scenario where (e.g. GS1DL) links cannot be redirected from a legacy brand. That portal has knowledge of the backup system.
It was mentioned that there will be Public and Restricted	The CIRPASS system can be used for non-mandatory information outside the ESPR. It is made for dynamic

information. Does this point to a form of full material declaration? How will the dynamic aspect of information needed within DPP (i.e. new hazardous substances identified) be applied to constantly be able to provide valid information?	information and also foresees a validation mechanism. But that validation is not legally mandatory
	Thank you for the response. The problem without some kind of FMD (even if this information will not be publicly available but only on need-to-know basis) will still remain that initially submitted info at any supply chain level will not be valid later (will not cover new requirements)
	In UNTP we envisage 3 levels of data confidentiality. First is public data that anyone can find & see. Second is batch specific performance data that anyone that has purchased the product can see (via secret key shipped with product).
	third is commercially sensitive data that must be specifically requested from the issuer who will provide it only to identified and authorised requesters.
One key question still outstanding: How can manufacturers ensure that buyers have access to a comprehensive view of the product's variance attributes within the supply chain at the point of sale? (ex: changes in components like lithium suppliers can significantly affect a product's CO2 footprint).	If the manufacturers provide the data to the REOs (resp. operators), this data can be accessed by consumers. If you want to include those variances, you need an identifier on the instance level, not on model level
	(Hard with only 300 characters) - Issue: at time of purchase, you do not know which variance you will get: so how do we make buyers make informed decisions without aggregating the variances in the supply chain?
Should we consider that there is a dedicated smartphone app to scan QR code just for demonstration purposes?	See my presentation later. For the simple solution, no, the camera app of a smartphone would be sufficient. For more complex solutions, a dedicated application, whether on a smartphone or on a recycling machine
	In the demo, I didn't see much information that I would expect as DPP content - product lifecycle info, sustainability, certifications that EC would consider legit. It looked heavily focused on brand product sheet and brand narrative. Is that aligned with DPP?
There have been several mentions during the journey of a DPP App, will this concern only a specific type of products, and if yes what kind of products/information?	There is the DPP System and DPP Data. An App or machine may use this. For consumers it is assumed that it works with the normal camera app, unless DIDs are used.
	Ideally no dedicated DPP app will be required to access public DPP data.
What is meant with backup-copy required to be stored a DPP Service Provider? is it meant a fully copy (public and restricted data)?	Yes. Everything that is needed to dismantle/recycle/remanufacture a product at end of life. Some things will last for longer than 10 years, where the company who has produced the thing is long gone
	And if this information is business relevant (part of restricted data) why should I reveal this data?
	but who will pay for the DPP service if the original manufacturer does not exist anymore?

When will we understand what data we need to provide and in what format, by what date to comply with DPP?	We use Linked data as a concept, not mandatory step. Which means we assume that you will re-use existing information and make it accessible in easy ways.
	With regard to the content (information architecture), you can follow-up and provide input to the JRC work.
	Existing information on durability, reusability etc... we don't store currently, and we don't know what detail is required by the legislation
Why is a backup server needed for the DPP, when are the (independent) companies named? What is the communication interface to this backup server?	I assume that is since the data in a DPP might be important long after the original manufacturer of the product/author of the DPP has ceased to exist.
	but who will pay for the DPP service if the original manufacturer does not exist anymore?
	that's a tricky question. I expect that the answer will be an archive service provider that is paid in advance to host for xx years. The time period probably depends on commodity type. Fresh food- weeks/months, textiles - months/years, construction - years/decades
	and then you'll ask "yes, but what if the archive service goes out of business"? Fair question. At some point enough diligence is enough - for 99% of cases. There will always be some edge cases where DPP data is lost forever
Will be known within the DPP the instantaneous location of the product and therefore also the location of the recyclable content? Or is this not relevant due to the rules about waste collection at the end of life?	There is no technical barrier in locating the data in the DPP Data. But this is not mandatory, and I would guess that this will be protected privileged data
	Thanks

Data additions & updates

Questions	Answers and discussion
Is data-ownership transferred with ownership of physical assets -> data-responsibility?	No, products can be sold to consumers, but DPP data is still hosted, maintained. etc. by the responsible economic actors or their authorized entities
	I'm not sure that the answer is as simple as that. Certainly, the original issuer of the DPP is the party responsible for sale of goods into the market.
	But the interesting question is about how authorisation to add data (eg use/recycling) is transferred - especially when the original issuer typically has no idea who will eventually own/recycle.
	which means a kind of token-based proof of ownership would be required that means legitimate owners of a product have authority to update
	Interesting. Is the host then also responsible for data accuracy/validity, assuming materials dynamically travel through multiple technical cycles & have changing value and i.ex. in case of the building industry need updated product certification etc. ..?
	Yes, it is a little more complicated if the product is refurbished, remanufactured, etc. Then the question is who is responsible for updating DPP, or if a new DPP is needed and who is responsible for that
what is current thinking about how authorisation to add data (eg use/recycling) is transferred - especially when the original issuer typically has no idea who will eventually own/recycle?	IN UNTP we are thinking this needs a kind of token that is transferred with the product. Could be as simple as unguessable batch/serial numbers.
	We have identified at least 4 options on how to transfer responsibility for the DPP from one economic operator to another. One of them is that the responsible EO has to accept entering data from downstream actors in the DPP.
	often the downstream actor is unknown to the upstream economic operator.
	hence the transferrable token idea?
why is the focus on one life cycle, if circularity and its upsides only show when products enter second or more use cycles?	Every cycle has their own identifier, but we could count the cycles in another place. But that's an implementation question
	What do you mean by that? If a product is recyclable, its identifier would link to a passport that only displays the impact of the first use cycle? That is exactly my concern, as it doesn't demonstrate the impact of its better circular design...
Will the DPP be filled in only by the manufacturer? Or will repairers also be able to update it (to take account of refurbishment operations, for example)?	The DPP is first issued by the operator placing the product on the market. The system allows for updates to the DPP by downstream operators, given that the product is identified at item level.

Will the DPP be updated for each use life? Taking raised access floor tiles. If taken up and installed in a new application would that drive an update to the DPP?	The DPP is tied to a product UID. When a good is remanufactured, there will be a new product UID and a new DPP. That new DPP may contain data from or a link to the old DPP
Would the DPP include information from the service life of products? A history of incidents / maintenance of articles might be useful to improve end of life treatments, especially for complex goods (electronics, vehicles, etc.).	Yes, that's the plan, although, we do not think that this will be mandatory. The system can carry all information about an instance of a product, if needed

Data carriers

Questions	Answers and discussion
Are customs agencies ready to read these barcodes, I think there will be need for barcode readers and maybe new regulations for the related agencies to protect the information built-in the barcode against the irrelevant third parties	This will not happen with the current barcode, but with 2D elements, which any cell phone can read. The barcodes will be replaced any way around 2027 - even in the supermarkets.
Are there any privacy concerns for putting RFID tags in clothes which can be read at a distance, where the RFID could be used as a covert surveillance?	This is an old discussion that has turned out to be rather theoretic. Because one would have to connect the RFID number to a person. This is not easy
	Agree, this is a non-discussion. The average consumer is in any case carrying multiple digital identifiers on their person. cards, cell phones etc. A passive UHF RFID tag is merely a digital trigger to connect to a discrete closed data system.
	Most people have moved away from this concern (except perhaps those worried about chips in brains etc which needed to be addressed certainly but not mainstream now).
	The people in line to leave flowers for Mr Navalny might be a little worried about the EU purchased sox and shoes
	For RFID Threads we addressed it by using UHF commercial readers e.g. bulk scan instead of QR Codes single & not efficient. There are some mobile phones on the market but you need to invest $ to read threads. Consumers read from NFC. B2B tool to add continuous bulk product data. No need to trace a person
	Yes, I hear you, hence why our RFID Threads require UHF reader to see and add product data. Also only show/retain general geo data e.g. city not street. Not needed for LCA the general area is enough
	I should say UHF commercial reader, not run of the mill. and it will only tell you the product details and where was repaired, resold, by which company, charity etc in a city, not street.
How can the provision of DPP-related information be made available at the end-of-life stage (from a technical point of view) where identifiers are not visible?	We assume that the identifier is still available. If the identifier is gone, we are in difficulties. There we fall back to the current situation where you would search for model or type information to dismantle
How QR can be free from scam? The protection needs to be implemented by the manufacturer? e.g., in UK, some hackers put phishing QR sticker on the original QR sticker that	In the more advanced scenario, verifiable credentials can be used. But this is really for the future and more advanced systems and not mandatory

asks the user to download EV charging app.	
How QR can be free from scam? The protection needs to be implemented by the manufacturer? e.g., in UK, some hackers put phishing QR sticker on the original QR sticker that asks the user to download EV charging app.	https://tax-stamps.org/the-eu-digital-product-passport-itsas-recommendations-for-a-secure-and-interoperable-approach/
	...potential solution, secure data (2D code, data...) based on ISO standards being on the DPP SReq list: ISO 22385 / ISO 22376
I regret the way the relationship between RFID and GDPR has been described. GDPR applies to the application that processes data attached to the RFID. Until now no personal data are listed in the dpp system. We need education of the market not unfounded threats agitation.	GDPR has to be taken into account but is less of an issue IMHO. GDPR may inspire usage limitations and I expect legal grounds for processing to materialize.
	I understand this view, however, if the unique identifier of the RFID is used to track a person (e.g. in a store or mall), GDPR is likely to apply. This is apart from what is stored in the actual product information system which may not have any personal data.
If a rfid inlay needs to be used in label form what stops the consumer from cutting the inlay out.	It will be either part of the brand label or be a device, which is not connected to the care label.
	location is key in this case. In a pilot project we did in the past, 99% of RFID tags stayed in the garment when they came back to textile sorters. Instructions how to place data carriers needs to be worked out and published until the DPP becomes mandatory.
In the case of textiles, what other forms of data carrier can be used? As a printed QR label has limited durability. After so many washes it could start to fade.	A woven serial QR is possible.
	Hi, the cost of individual woven labels would be prohibitive.
	and also, the timeline of manufacturing a woven label would then potentially slow down the production of garments waiting for labels to be manufactured. Care labels are inserted into garments at the early stage of the garment manufacturing cycle.
	15% more than the normal brand label
	This still doesn't address the timescale of manufacturing as generic brand labels are usually held as stock.
Just a thought, and I'm sure it's been thought about: How do you label a garment, so the DPP marking is wear/wash resistant? ...So that the reading device can recognise the marking.	These labels are empty until end of production and programmed at quality control
	Could be laser-cut into labels
	If the granularity is at item level, woven qr code implementation will face practical challenges. Even batch level dpp will face similar practical challenges of implementation
	So, this would not be a woven QR code? As a QR code is unique to each sku
	With correct substrate/ink combination dynamic printed QR on printed fabric label can last >100 40"C washes

	Yes, I agree, but if the QR has to last the life of the garment it could be more than 100 washes
	Woven label has limitations due to complexity of a dynamic QR code structure if using GS-1 datalink. Not impossible, but challenging and expensive
	Yes, I agree.
	That's something my company has been working on— the label needs to last as long as the item it is applied to, and ideally composed of the same or compatible material so removal of label isn't required for recycling
	And what is the name of your company? 🙂
	PlsReturnIt— we're currently working with the California Product Stewardship Council on some textile recycling and upcycling pilots in case anyone's interested 😊
	I am happy to share how Avery Dennison has been addressing this challenge with our labelling. There are couple of possible solutions available already
	Just background info: I work for an IoT innovation centre based in Glasgow, so we are not really in the textile sector BUT we aim at helping all Scottish businesses trading with the EU to adopt the DPP, incl. garment designers. The information about marking technologies is very relevant for them
On textiles, if RFID is used, does this make recycling of garments more difficult as they now contain ewaste sewn in to the garment? Also has resilience of rfid tags been mandated 100 wash cycles /25 dry lean cycles	In my company's work with the California Product Stewardship Council, we've heard from our waste and recycling partners that there are some open questions on this front for chem/mech. They would likely be removed along with other components such as zippers during detrimming for recycling.
	Some RFID tags have demonstrated that embedded RFID has no impact on textile mechanical recycling processes at industrial scale.
	our RFID Threads are tiny about 80% less metal than most RFIDs metal. mechanical recycling and even chemical and green chemistry can remove using magnets e.g. like zippers.
	Our aim is for RFID Threads to be removed during decommission, offers job opportunities, plus e.g. 100 washes may ascertain that it's still got, say 50 washes left so recovered, reset, and resold for say homewares, mattresses and offer the OG brand a rebate to reduce DPP cost. Or recycled the metal.
	Yes, there are RFID tags that are resistant to washing cycles. Especially laundry tags have proven to resist industrial laundry (200+ washing cycles).
	Given the high price point of laundry tags, there are RFID tags needed that resist the lifecycle of the textile product (t-shirt more than a jacket) and are affordable. There is a couple of

	innovations which came to market in the last 2 years in this area.
	Metals are generally a problem for most recyclers. Not only for RFIDs but also zippers, buttons etc. While for some recyclers small amounts of metals are ok, for other even minor parts can be a problem.
	Agree, therefore after the textile sorter accessed the DPP and benefited from it to sort into a suitable recycling fraction, the determining and pre-processing activities should remove the RFID just as other trims. For reuse fractions RFID of course should stay to power circular business services.
QR code should have the CE mark in the middle and that there would be quite hard penalties for using that in any non-formal ways (like phishing). Has there been any such consideration on the design of the QR code?	Good idea!
	Indeed, the QR code should not be used a spoofing vector.
Question for Steve Capell. We have developed a combined human / machine readable data carrier that is compatible with existing print tech can I arrange a time to review this tech with you?	Sure - although please note that UN will not be choosing products or recommending technology. Only specifying standards such as https://w3c-ccg.github.io/vc-render-method/
	Understood
Regarding the Technology (QR, RFID,) for textiles It seems QR code is acceptable for consumer and use phase and seems mainly to be a hindrance in recycling/sorting. Are also alternative recycling techniques investigated (such as optical sorting) that might need limited info from DPP?	This is a work package in the so called CISUTAC project as we speak: www.cisutac.eu. RISE in Sweden is the work package leader.
	The problem with QR codes is they need to first survive plus only scans one at a time hence we created RFiD Threads for bulk scanning to get us to-scale
RFID tags and electronics in textiles are a nightmare for recyclers. What's the legislator's and CIRPASS' response to that issue?	We have two tradeoffs to balance against each other. RFID would allow for sorting by machines. QR-code would allow to avoid electronics, but require sorting by hand making the entire operation less useful
	Hi Rigo and Pascal, if RFID is a problem for recycling, then it must be removed at the end. Effort to look for the QR is the same and much cheaper.
The data carriers seem to be limited to QR codes, RFID etc. But there are solutions out there which are non-invasive and based on the microstructure of the underlying material, like a	These technologies usually do not support connecting the product to a specific responsible economic operator.
	data carriers include, and limited to, QR code and NFC (ISO related and available on default mobile users), Datamatrix and JAB Code (ISO related, using a specific App), even watermarks (NOT related to any ISO norms... yet).

product/material fingerprint. Would such solutions be allowed to be 'data carriers'	according to SReq ANNEX II Part B, this standard could be taken into account: ISO 22387 Confirmation procedures for the application of artefact metrics
What provisions are foreseen for detecting whether a genuine data carrier, in particular a 2D barcode, has been cloned and used on a counterfeit product?	The DPP that the data carrier connects to can contain information about the security measures applied to the product and how to make the verification
	This could be done in conjunction with the securisation of the code (either QR, NFC...) and the securisation of the URL link. Some ISO norms are listed in the sReq annexes.
	working on that over the next couple of months - https://uncefact.github.io/spec-untp/docs/specification/Counterfeiting
what role will the RFID technology play in the circular economy?	I think it depends on what RFID is used for to evaluate its role in circular economy. In terms of DPP, RFID can be a data carrier alternative.
What was previously displayed on screen, is not a ISO/IEC 18004 compliant QR Code. Neither the Image in the middle, nor the rounded QR Code pilots - It also forces to create a (H)igh level of correction. Reliable ISO/IEC 18004 compliant QR Code as smaller, faster to printed, faster to be read...	There is few reliable methods to merge a logo with a QR Code, series of QR Codes (such as QR+)... But the judge is the ISO/IEC 15415 certification grading process (A, B, C...) is given by machines provided by AXICON, REA...
When we design the solution to easily access the information, we have to anticipate future technologies for DPP for durable products. 30 years ago, e.g., microfiche was a way to store information. What will we use in 30 years? Will we still use smartphones and apps to read QR codes? What if not?	The best we can do is to use tech that is modern today
	I'd expect that the phone to scan QR codes may change. However, the notion of having a unique identifier that can be scanned will not. As such. Similar to how phone numbers got longer and phones more complex. But we still use phone numbers to call someone.
	This is why the DPP has to be based on norms. QR code is the commercial name by DENSO WAVE the inventor and patent owner granted to ISO, of the ISO/IEC 18004, modified every 5 years.
Will DPP be merged with GS1 codes placed on the packaging to ensure global harmonisation? GS1 is implementing QR codes, and it seems to be most recognized international standard.	Not all products, outside Consumer Goods, will be able to use the GS1 Digital Link printed on pack. Some of them will.
	GS1 identifiers encoded in QR codes according to the GS1 Digital Link standard will support DPP. The QR codes can be placed on the package and/or directly on the product depending on requirements in upcoming delegated acts. There will be a short video later today illustrating how this can be done.
	Thanks, I look forward to watching the video
	Also good to know: GS1 is the standard for certain product groups, but not for all. Any DPP that wants to be applicable

	across sectors will have to support other standards, like ETIM, as well.
	DDP may contains, or be connected to, several identifiers, including GS1 GTIN when available. A mobile phone for instance has several unique to each device, identifiers including IMEI, Bluetooth, WIFI... while the packaging may have a GTIN in EAN barcode, shared by all similar models.
	ETIM is a classification standard and a data model for technical products, not an identification standard like GS1 GTIN for example. So, I think these should not be compared to each other. GTIN for can also be used in connection with ETIM.
	Furthermore, any ISO/IEC 15459 ID issuers (including GS1, Visible Digital Seal...) is relevant to this initiative.
	Yes. GS1 is dominant in downstream consumer products but you very quickly run into other schemes as you move upstream towards raw materials. A scalable solution must support both GS1 identifiers and non-GS1 identifiers.
	The basic requirement for any register of identifiers - whether GS1 or otherwise is that they should make their identifiers discoverable (e.g. printed on data carriers), resolvable (e.g. given an ID, I can find the DPP) and verifiable (i.e. I can prove I own the ID)
	GS1 is already very far progressed on this discoverable / resolvable / verifiable approach to identifier schemes (congratulations to them!). other identifier registers will either need to upgrade or lose relevance
	That includes things like national business / VAT registration systems, land registers, etc. So, there's a key role for regulators here - "do what you do today - but digitally & verifiably"
Will the data carrier be required to resolve to the EU registry, or can it resolve to a web page which will contain a link to the DPP in the EU Registry?	Not defined yet, but both will be feasible to my understanding. Using the EU Registry as a rooth resolver is tempting.
Will the extensive use of RFID tags in future not be contradictive to sustainability and recycling goals?	Fair comment - and will need to be taken in account by policy makers and brands.

Architecture

Questions	Answers and discussion
For the Front - End Demonstrator are you using Asset Administration Shell in the backend or any other semantic model?	We are using Linked data. AAS is also using Linked data
Hi, I have an understanding problem: it has been clearly said that DPP will be decentralized BUT we must put the data on 2 web portals … is it not centralization ?	DPP Registry should not contain product information, just ID
	Problem of understanding. The Portal, AFAIK, is not determined yet. It may be just a search engine that points to the place where the DPP Data is
	The DPP data will still be hosted wherever the company chooses. The portal(s) will be a starting point enabling DPP data to be found without having access to the physical product
Hi, still unclear for me if you have a DPP for every individual item (every serial number)? Or is this dependent on the kind of product? E.G. a car:yes, a machinecontroller :no.	It will be dependent on the type of product and regulated within delegated acts under the ESPR.
If the DPP system is decentralised, how will we ensure that the data is available and accurate on a single platform for end users?	We use web technology. There is more than one web server in this world. And it still works
	It's all about link resolution. Given a product identifier, a user should always be able to find the DPP even when the data is in 1000's of different locations.
In regards to the SReq:"limit the energy consumption of the product passport" The constant uptime will generate CO over years/decades running, especially when the idea gets implemented in other jurisdictions. Is there a provision to ensure that the system relies on green/renewable sources of energy?	There haven't been any studies yet, but the system is a normal system that will also benefit from research on green computing
	There are several existing solutions that combine: secure, offline, and online approaches. Online, when needed, only when needed.
Since DPP will be decentralized system, will there be a single dedicated DPP system authorized by European Commission for specific product type? Rather than the brand owner hosting the system by themselves?	DPP should be created, data stored, maintained, etc. by actors or those authorized by these actors that put the products on the market.
The QR code for apparel, is this envisioned to link to a url	Both, stay tuned for the related presentation

provided by the manufacturer, with details of the DPP. Or will it need to be a public url accessible by all manufacturers? Or both.	Something like this https://www.gs1.org/standards/resolver - or the more generic ISO version of the same thing - https://www.iso.org/standard/85540.html

Architecture - Blockchain

Questions	Answers and discussion
"DPP is based on a decentralized approach for data storage": does that mean blockchain is a key requirement for DPP for fashion, luxury goods and batteries?	Blockchain can be an option, not a requirement though
	Speaking for UNECE, blockchain is NOT a requirement, even for a decentralised system
	Keep "energy sobriety" in mind when dealing with billions and billions of identifiers and related requests. Anything that can remain "local" will be well received. Dynamic data is another matter...
	It's not just about energy consumption related to blockchain. Blockchain is merely one implementation of digital ledger technology, and who can say that during the lifetime of a product it is not surpassed by some better technology in the foreseeable future.
	So, it would be somewhat shortsighted to require a specific DLT approach tied to a specific technology like blockchain. Also, blockchain may be overkill for some industries. Which I surmise are two of the reasons that blockchain could be permitted, but not required.
A question related to products ownership. DPP of product is decentralised, if not hosted on a public blockchain, how can the strong authentication / information asymmetry be solved/ 'guaranteed' to producers and owners (first and post-first sale owners; as end consumers or life extension actors)?	I'm not sure that public blockchains solve that problem. In UNTP we provide several confidentiality patterns that allow publishers to manage visibility of data even in a decentralised model where the publisher may not know who needs to see additional data
At this stage are we sure that Blockchain will be the mandatory tool to operate DPP system?	I can't speak for EU regulations, but I'd be very surprised if technology like blockchain is mandatory. It is perfectly feasible to implement decentralised architectures without blockchain.
	Keep "energy sobriety" in mind when dealing with billions and billions of identifiers and related requests. Anything that can stay "local" will be welcomed. Dynamic PDPP-related data is another matter, and blockchain is just one solution among many.
	There is no mandatory requirement as to which technology should be used for DPP. Including Blockchain. In our analyses we have so far found no evidence that blockchain would be indispensable for DPP.
	I agree. The DPP system should be able to connect to data on a blockchain if required. But blockchain is not part of the core DPP system.

	Circular economy "use-value" for post first-sale markets (consumers + life extension actors), the DPP, without DLT tech., will not allow product owners to authenticate products, without a central authority. will we get details about the decentralised architecture proposed by the commission?
Decentralisation, traceability and trust are mentioned often. Has blockchain technology been considered as an architecture to facilitate these characteristics?	Blockchain can be an option, not a requirement though
	I have a similar question... rather puzzled as to why the digital twin approach (say and NFT minted on a blockchain encapsulating the DPP of a product) is not considered/ planned.. question of transaction speed etc.. at play. But authentification issue, is a big one here
	It is considered and will be presented later. But it is not mandatory
	OK, thank you.
	As far as I as see, using public blockchains is not a requirement
	Blockchain may be a solution but may face issues with the required "limit the energy consumption of the product passport" (sReq). Local data is another relevant answer.
	Decentralized only means that the entire repository will not be hosted at the EC
	Private ledgers are decentralized too. In the end, decentralised is "not centralised"
	I don’t expect any "requirement" to use any blockchain platforms at all. Some implementations may choose to do so at their discretion, but I cannot imagine any mandate to do so. Web 3.0 decentralised systems work perfectly well without blockchain.
It would be beneficial to understand the aspects of carbon footprint of DPP activities. Blockchains and Cloud platforms that will host the data for DPP can consume a significant amount of resources to operate.	Some blockchains that are based on so-called "proof of work" are energy intensive, yes. But I can’t see any good reason to use such platforms for DPPs.
	Actually, there's no need for blockchain at all. "Web 3.0" technologies like verifiable credentials and decentralised identifiers do not depend on blockchain. So, implementation and energy costs can be very very low. MUCH lower than the footprint of the products themselves.
	Thank you. Is there any research and data on that?
	Fraunhofer IZM of PI4.0 who presented today have performed an LCA on the footprint of operating a DPP for electronics. Ask Eduard Wagner and colleagues.
Will there any guidelines or proposals in relation to cloud vs blockchain data storage?	The entire design is agnostic to where the data is stored. This could be some nextcloud, some sophisticated ERP or a blockchain, provided it can produce the data format required

Interoperability & ontologies

Questions	Answers and discussion
A color space, restricted referential such Pantone-Textile 1800 colour coded is an example where instead of ontology we should consider science base color coding references as color vehicle such as spectral colors ultimate way to measure colour: science measurement vs ontology?	It reminds me of LAFARGE PEINTURES. You're right about "spectral colors", but corresponding ontologies are needed, especialy for end users. In paint, each vendor has a specific "paint color chart", with specific name / code for each color. they will never ask for a given “spectral colours"...
	You can encode that existing color scheme into something understandable to the system. So once your sensor has measured, you can encode the result.
	You could add the scientific measurements to the ontology as well if you want to. The ontology is primarily used to ensure different systems understand each other (what even is 'color'), it does not care whether you use RAL, Pantone, or the wavelength of the light to describe a specific color.
After seeing the excellent ontology presentation, I am still perplexed how it's possible to develop DPPs in different sectors today, then develop the common ontology tomorrow or try to develop protocols that fit different data formats and measurement types together later?	This will be not easy, but it is possible.
	The first DPPs can be mapped and transformed into the common ontologies when they appear. Depending on the compatibility of the data models, the mapping and transformation process may be either easy or laborious or something between.
	The prototype DPPs are actually probably needed as source material to be able to define a comprehensive enough common ontology
	There is a prototype PCDS already so perhaps they start there!
Are there plans to do the crucial alignment across the interoperability aspects (i.e. technical, semantic, policy), and various domains (batteries, textiles, etc.)? And are there plans to set up a European center to align and communicate on this to ensure fast and futureproof DPP adoption?	For Data Spaces there is already a European alignment: https://dssc.eu/, I think that for DPP we need a kind of similar initiative to ensure fast adoption and avoiding 'silo-ed', product/sector solutions.
Are we working in silos? Out of curiosity, do you know who/which stakeholders/leaders from Europe (CIRPASS, Commission, JRC) is engaging with China Battery Association, and similar associations in Japan, Korea to *try/aim* for *harmonization* of data points, identifiers, etc for DPP?	We have tried to avoid any technical condition for making silos. But even though everything is highly interoperable, socially, silos can be created.
	The system will allow for easy matching between those national approaches
	Battery association having exploratory meetings on April 2. Is someone from your team interested to join virtually?
	Yes

Did I understand it right? There are already ontology mapping tools? To map all of the different industrial ontologies? Are there tools for textiles you can name?	GTS is such a classification system with defined semantics that allows translation of data.
How are DPPs going to make sector data comparable? Example: A bicycle has components from many sectors. Example: It is a huge cost for SMEs to provide 20 different DPPs for sectors that they sell into. How to resolve those when sectors are already developing DPPs with no data alignment structure?	We assume that a supplier knows their data and can provide the data with their component. While not part of the ESPR, we assume that responsible economic operators will ask for that data to produce the DPP
	This is one of the reasons that ESPR, defining the DPP system, is product category agnostic. Ideally there will be only one DPP ecosystem/network
	The problem is that SMEs lack resources to provide different sets of data for 20 sectors that they sell the same component into. Moreover, product assemblers cannot total up data from multiple components from multiple sectors into a complex product if the data formats do not align.
	Normally the product category agnostic structure is developed first, then the sectors would take their cue from that. The existence of a single ecosystem does not guarantee that the datasets and formats themselves will be standard across sectors.
	Also, why UNTP specifies a common interoperable core that is neither sector specific nor jurisdiction specific
	I'd love to see the standardized data categories that UNTP has come up with. DPP seems to lack those so far so perhaps UNTP could contribute.
How do we ensure that when we implement ESPR / DPP, we consider member state's regulations and UN/ Asian markets regulations as well? Are there any guidelines on touch points	Though I'm no expert on regulations in the US/Asia. In my (TNOs) experience, the EU is currently leading in this field and partners from abroad are looking at us (EU) to set the scene for them to then align with.
How will UNTP be used in the context of DPP?	It can be used in both directions. DPP -> UNTP and UNTP -> DPP as they use the same data formats
	UNTP complements the DPP, especially for the compilation of upstream activities. Both initiatives are interoperable.
	For EU, W3C, CIRPASS team; do you align with UNTP's approach of connecting to conformity credentials?
	Whether or not conformity credentials will be linked to the DPP will be defined by the upcoming delegated acts. The DPP system architecture proposed by CIRPASS could support this if needed.
In terms of data quality - is in the Cirpass project any link to actual Material Flow Streams? Are	The technology used integrates naturally with industry 4.0 flows and any edge-to-cloud solution. It can also be integrated with ERP systems.

Material Flows analysed to look into actual implementation?	
Is there a difference between Material Passport and Digital Product Passport?	No, there is no general difference. In fact, one of the first DPPs under the ESPR will be for iron and steel.
	Is there any information on the DPP for steel already available? Is there any link to it?
	The delegated act is being drafted. To my knowledge there is no information available at present.
	Thank you!
	There is only a link to the preparatory study https://susproc.jrc.ec.europa.eu/product-bureau/product-groups/642/home
	Can we then expect this to be extended to any other building material and component?
	For buildings most probably under the Construction Productions Regulation.
Is there a list of ontologies that are suitable for use in DPPs?	This depends on your use case. There are free ontologies and commercial ontologies all around
	Yeah, the point is that they are all around. We are developing a generic platform for DPPs and would like to ensure that the most important/established ones work well. We do have use cases e.g. in construction and textile
Please tell me the key points to successfully connect the manufacturer's ERP and LIMS with Battery Passport's distribution platform.	If I understand right, https://www.globalbattery.org/battery-passport/ is a standard, not a platform. Your ERP/LMS might directly issue and host passports. Or if not then you should be able to integrate it with any battery DPP provider of your choice.
	Please note and be clear that the work of the Global Battery Passport is NOT relevant to the EU Battery Passport, it is exclusively looking at upstream whereas the EU system looks at production and downstream. For more info on the EU system, visit www.thebatterypass.eu.
	How companies' software systems are connected to any given DPP solution is up for the responsible economic operator (or delegated DPP system providers) to work out. There are few technical constraints defined for that.
Repeating my question that didn't seem to register: if sectors are already developing DPPs without an overall data format for all DPPs, who is making sure that the data from them can be aligned?	There are, and will be more, details on DPP standardization (systems, semantic, etc.) to ensure interoperability across sectors.
	That is one of the key objectives for the UNTP DPP
	The concern is that the DPPs are being developed in different sectors now without an overall data format framework, so it will be expensive to align those later.
	All you need is a secure link (within DPP data carrier) to your existing DPP and a connector/API to retrieve the data.

	Thank you, but my question is not related to accessing the data. It relates to how users and suppliers are going to allign datasets that have radically different ontologies in different sectors. Right now, different sectors are developing DPPs with no common ontology for the actual data.
Thanks for all your prompt replies, and the questions asking for more clarity: indeed my question is : who will certify the technical interoperability of a DPP solution?	If DPP service providers are to be certified, this will certainly be an important criterion
	Officially this is open, yet. As there is one central registry, also organizing the backup data and determine the DPP architecture, very likely for practical reasons the EC will have the hat on - by my knowledge no final decision taken, yet.
What is the link to UNTP?	https://uncefact.github.io/spec-untp/ - note it's a new site and still under development. Will be complete by June 2024 with more content coming over the next weeks.
What is the relation between the DPP and the UN Transparency Protocol?	The DPP can re-use UN Transparency information and vice versa, easily
	Thank you. Yes, the UNTP is positioned as an interoperability standard for upstream cross-border and cross-industry traceability & transparency data. As such, it should be a carrier of data that can confidently inform EU DPP data for imported products & components.
	Also, since both of these initiatives are developing in parallel (the UN one with a slightly more aggressive timeframe), we will take every opportunity to collaborate for consistency and interoperability.
Will the companies need new systems to provide the DPP? Or can they use the existing systems like SAP, MES, Energy management system,...	The assumption is that existing system can be used as long as they provide all the features. But they should be easily extensible/integrate able without much effort
	agreed - existing business systems such as SAP are already the source of most information that would appear in a DPP. So it's important to work with those system vendors to ensure that their products can publish DPPs
	most likely that companies will connect their existing ERP, PLM, PIM, LCA and Supply Chain tracking solutions to a data lake, from which the DPP data can be farmed
Will the DPP replace/cover SCIP and CLP?	They should be interoperable. A DPP system could re-use data from SCIP and write data back into SCIP
	Thank you! So, SCIP will survive?

Standards

Questions	Answers and discussion
@UNECE: Are you cooperating with ISO/IEC? E.g. on the development of the ISO/IEC 82474-1 standard on Material Declarations, which beyond the standard itself includes underlying data exchange formats?	We are trying to avoid wheel re-inventing. So using existing standards where possible - for example https://www.iso.org/standard/85540.html
	Great, I suggest you have a look at ISO/IEC 82474-1 - keep up the good work!
Current PCF data published by IT manufacturers is not comparable because of lack of standardization of LCA methodology. Consumers cannot take informed decisions on PCF. By the time of implementation of the DDP for IT, will the CE mandate one PCF methodology?	Excellent question that we flag for the Commission!
	When reading a static UID with initial mandatory data in it, this should be possible by design to "update these data" following criteria evolution. This is possible on the basis of the standards included in SReq Module 7.
DPP standardisation work by CEN/ CELEC - are there opportunities for pilot projects in companies	Certainly, contact them
How would the standardization of data around energy efficiency and sustainability be achieved with multiple manufacturers - basically to compare apples to apples?	This is done via categories. You can use DCAT or DCAT-AP
	The PEF work is still ongoing and will bring clear methodical rules on such topics.
	Thank you
I thought it is not “DNS or ISO 15459” (like in the slide) but DNS and ISO 15459. Can you explain better why it is an OR instead of AND?	I guess it was a mistake. I expect exclusively ISO 15459 compliant identifiers - but not only from GS1.
I thought it is not “DNS or ISO 15459” (like in the slide) but DNS and ISO 15459. Can you explain better why it is an OR instead of AND?	ISO 15459 is no longer mandatory in sReq... but it a great approach to identification. GS1 is one in many ID issuer including Visible Digital Seal International Council, SIEMENS AG, IBM, IEEE... (cf. ISSUING AGENCY CODES for ISO/IEC 15459 - version 2024-02-05)
If a products Carbon/ Environmental Footprint is mandatory to include within a DPP - can you advise what data needs to be included for this to be an accurate account, do you advise on a tool that can calculate this to your standards? Will this	This will most likely be regulated within the delegated acts for product groups. You may want to refer to the battery regulation for first ideas.
	When will we know for Textiles?
	Please refer to the PEFCR developments, those rules are generally meant to be abided by. This is specified in each product regulation.

data need to be authorised by a third party?	
The digital product passport will present various information concerning the environmental performance of the product. Therefore, it is crucial for ensuring a level playing field. Which methods should be accepted, such as PEF? Should EPDs be accepted as well?	This depends on the product. Where existing and applicable, PEFCR shall be applied, for example in the case of batteries. The PEF methodology for those is being revised right now.
	Thank you for raising this important question. @Battery Pass: what about products for which there are no existing PEFCR's? Which methods for CO2 calculations will be accepted in those cases (to ensure level playing field/harmonization?). Will appreciate any comments. Thank you.
	The ESPR Delegated Acts adopted at product group level (e.g., textile, steel) will include the rules to calculate environmental indicators required as mandatory information (if any)
Where can we find more details on UNTP standards?	https://uncefact.github.io/spec-untp/ - note it's a new site and still under development. Will be complete by June 2024 with more content coming over the next weeks.
Will ETSI be responding to the Standards Request since the request was addresses to all three ESOs?	I don't think so. This is in CEN/CENELEC AFAIK
	Some standards listed in SReq are based on ETSI normative references, examples: ISO 22385, ISO 22376, ISO/IEC 20248...

Web Portal / DPP Registry

Questions	Answers and discussion
Can we please receive more information on the 'Web Portal' - its purpose, how will it be used, how will the data be collected etc.	According to the ESPR, the Commission will set up and manage a public web portal allowing stakeholders to search and compare information included in product passports. Further details are expected to be defined in forthcoming Delegated Acts on governance rules and requirements for the DPP.
DPP registry - what information is mandated?	Product ID, operator ID, and facility ID. please look at the draft ESPR on this topic: https://www.consilium.europa.eu/media/69109/st16723-en23.pdf
In the presentation of William Neale, slide about the centralised registry, what is intended as 'commodity code? Is the link to the decentralised archives?	This is just an additional identifier for their database to disambiguate AFAIK
Why do we need the facility identifier for in the DPP registry? I don't see how this is information is so relevant to be stored in the registry or in the offline data. Thank you.	The facilityID has made it into the law. That's why we need to provide an API to store it in the EU-Registry
	Thank you, but my question was what led to this decision. The Facility ID has the same relevance to me as the Truck ID that had transported the product. Where am I missing something?
	I can guess at 2 reasons. First is that, for some claims like deforestation, the geolocated facility (e.g. farm) is key to verification.
	Second one is that some product level claims will be based on a mass-balance allocation of facility level performance.
What is the registration identifier and commodity code in the DPP central registry? if we have a product identifier why do we need a commodity code?	The EU registry wants to have a list of entities having submitted a product UID. This is why they need an ID for the REO

Sectors - Batteries

Questions	Answers and discussion
Battery ; How much analysis data such as spectra and images of various substances contained in black mass is required for the battery passport?	None. The battery passport has no direct connection with black mass as it ceases to exist with recycling of the battery.
Battery pass demonstrator: How the dynamic data (State of Health) are being communicated from a vehicle to the DPP database?	New vehicles have internet connection that they can use for data transfer. But there could still be cases of missing connectivity, like in underground parking.
	Other battery applications have, however, indeed the challenge of missing connectivity. This will should be considered in the corresponding delegated act in our opinion
Battery pass is only for big batteries of 2Kw or more capability, meaning not for small batteries used in home electronics?	The battery pass is foreseen for EV batteries, light mobility batteries and industrial batteries > 2 KWh. Small appliances batteries like AA or AAA are not included.
	Batteries of LMTs also need to have a Battery Pass Independent of the Size. But batteries for household appliances don't need a battery passport as they are classified as portable batteries.
Does the battery passport require individual cells get uniquely identified?	It typically remains on the pack level of information. Only few information has to be provided for cells - these are on a cell model (not individual) level
	Do the battery industry foresee individual cell replacement as a valid repair process
Hi, what is the scope of batteries? All batteries or only industrial use batteries are covered in DPP?	I think it is all batteries above 2KWh power. Therefore, batteries for stationary storage, mobility etc.
	The Battery Regulation is fully explicit: Batteries covered by Battery Passports are (1) all Electric Vehicle traction batteries (2) all batteries in Light Means of Transport (scooters, bikes), and (3) all industrial batteries (e.g. stationary power storage) >2kWh.
The QR code for the battery pass isn't readable... (tried scanning with an iPhone 15 pro max, failed to pick up anything). Will the DPP itself stick to proper QR code specs and avoid adding logos etc?	We assume so. But this is subject to the standardisation. If RFID is used, the checking with the smartphone also becomes difficult
	You will find all materials by The Battery Pass group at www.thebatterypass.eu/resources. To remain updated about our upcoming activities (including consultation phases), subscribe to our newsletter via www.thebatterypass.eu/subscribe
	thanks for your replies. Indeed, RFID and other means (e.g. ink that's invisible to us but visible to smartphones) could be used when QR isn't practical. There are a lot of methods currently used in anti-counterfeit (item level) that should also be explored here.

There's a requirement in the battery DPP to explore the use of user data for extending the lifetime of the batteries - has anyone looked into this yet?	There is no mention of sharing user data via an EU Battery Passport in the Battery Regulation, this would not be permissible as blanket requirement according to GDPR
	I believe there is a requirement to explore the potential to include user data?
	in ESPR draft there is the requirement that no personal data should be stored, or at most should not be stored without reference to GDPR. https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52022PC0142 But, regards DBP, Battery Regulation names no data points that are of personal nature
Where can I find more information about the supply chain due diligence? Wrt the battery password. Thank you.	You could check work of the Global Battery Alliance globalbattery.org
	The Due Diligence requirements for batteries are specified in the Battery Regulation. Only a small part of those needs to be reported on the battery passport - the Battery Pass content guidance (www.thebatterypass.eu/resources) could give you guidance. Note, the work of GBA is separate and optional.
Will there be a detailed description, what parameters will go into SOH consideration? SOCE or SOCR are maybe not enough to determine the real status of a battery.	Standardisation Requests have been adopted in the framework of the EU Battery Regulation to address exactly that.
	The battery regulation (Art 77/Annex XIII) lists several parameters in addition to SOCE that will need to be reported
	Note also that for automotive batteries, UNECE is conducting work to create standardization on minimum performance and durability, including state of health assessment methodologies
	Thank you for the answers and your effort!
With battery passports being deleted at the end of the first life of the battery, is this not a very linear way of viewing the value chain? Surely this will lead to the loss of valuable data to facilitate different R strategies and the ability to measure the effectiveness of circulating materials?	Which possible R Strategies would you suggest that are feasible after recycling, and thereby destruction, of a product?
	The Battery Pass will disappear with the physical object itself. The materials will be recycled and enter a new life cycle but now with different properties in contrast to virgin materials. The second-generation BP will reflect those properties.
	So, second life application of batteries (e.g. stationary use after use in EVs) is still within life 1 😉
	For example, if a battery is remanufactured and repurposed so the cells as separated or perhaps some are replaced, is the historical information preserved in some sort of material passport? Or would the information be lost as the original product no longer exists?
	Or when it gets to the point of recycling, deleting the passport will mean the loss of some useful information for proving the origins of that recycled material
	It also seems in opposition of decentralisation, as decentralised blockchains provide a permanent immutable record, making deleting impossible

	I would suggest looking at Article 77(7) of the EU Batteries Regulation for the aspect of remanufacturing/ second life of the battery and the transfer of the Battery Passport obligations to the relevant actors.

Sectors - Electronics

Questions	Answers and discussion
In electronic use cases, how will the DPP accommodate the multiple components and sub systems I.e. how will it accommodate down to the chip level and below?	The current data formats allow easy merging and assembly of data. The main issue is to get data from suppliers, not the technical system challenge
In ESPR prioritized product list, there seems to be a new input ICT product and other electronics. What kind of products does this cover? Does this concern B2C products/consumer electronics or also B2B products as well?	ESPR defines both eco-design requirements and potentially the DPP for the product group. Because of the existing EPREL registry, it is likely that electronics are currently excluded from mandatory DPPs.
Is there an official publication of the extended list of products affected by Dpp and when dates will make it mandatory? namely for electronics components.	Please follow the development of the ESPR to get answers.
So, for DPP for a phone, you would be tracking the batches of the screws used in the phone?	If required, yes
	so, is it required?
Thanks a lot for the interesting presentation about the battery DPP - there will be a list of required components to be in this PP. Is there, or will there be, also a list for electronics?	Because of the existing EPREL registry, electricity and energy-related products are currently excluded from the mandatory DPP.
The refrigerators are excluded from the DPP list and is not required to provide a DPP for it? or do I miss something here?	Not entirely sure, but I think it is due to the fact that refrigerators are already regulated by EPREL and hence do not fall under ESPR:
	EPREL already gives a first implementation of what DPP could be.
	Can you provide me a link for that?
	https://eprel.ec.europa.eu/
	Thanks
Will kWh meters and EV charging station be included in the scope of ESPR?	This will depend on the delegated acts according to Art. 4 ESPR
	Thanks
Will the DPP also be applied to industrial products such as hand-held scanners and hand-held	DPPs are not per se limited to private end-consumer products.

computers, especially in use in warehouses etc.?	
Will there be a mandatory platform on which the DPP data of electronic products has to be maintained? Or is it possible that there will be several companies that provide their own solutions for storing and providing relevant data?	DPP systems are supposed to be decentralized, so responsible economic actors can decide where and how to store their data as long as they meet DPP requirements. So there should be no mandatory platform. DPP Registry is not a platform to store DPP data.
	I'd expect that issuing and hosting DPPs will become a fairly standard feature of the same business software solutions that companies use for finance and logistics today. When you cut an invoice for a shipment, I'd expect that your existing business system will allow you to issue & publish a DPP

Sectors - Textiles

Questions	Answers and discussion
DPP especially for Textile must be at the SKU / item level including size! Not batch not product level	So, you mean it is planned to be at the SKU/GTIN level, not at the level of a specific instance or batch of the t-shirt? Or are you saying that it's infeasible/worrying to plan to do it at the batch level?
	without granularity, lot at least, no relevant data to follow up and make the product circular
	Probably best at LOT/Purchase Order level as the same GTIN/sku could be manufactured multiple garment factories. We easily can accommodate this with our solutions
Electronic Textiles - Which category do you see them sitting in? Should electronic textiles be a category of their own due to the complex combination of materials and recycling challenges?	Smart & electronic textiles are (at this moment) out of scope of the prioritisation. (see latest JRC study)
	https://susproc.jrc.ec.europa.eu/product-bureau/sites/default/files/2024-02/Textile-Prep-Study_1st-Milestone_20240223.pdf
	The topic of suboptiaml national electronic waste legislation in this context is known and has been addressed to the European Commission.
For Recycling of textiles - are the Recyclers supposed to click on several links to sort every product in order to recycle it in the end? How is this made practical in recycling?	We assume that sorting could be automatic as a machine would have category data available. That's the goal of the system
	Please expect additional RFID devices on the product for exact this reason
	It is crucial that DPP information can be integrated into lean sorting processes. circular.fashion has developed sorting technologies for textiles sorters that allow automated and semi-automated sorting based on DPP information. The choice of data carrier and placement is key for that.
For textile, all types of products are concerned? Apparel, footwear, household linen, accessories like bags & luggage, leather goods?	On the longer run, yes. Today's status is, that it will start with apparel - without shoes, textiles and without protection wear. This might change with the next milestones of the JRC study. More information you find here: https://susproc.jrc.ec.europa.eu/product-bureau/product-groups/467/home
	Many thanks Andreas
For textiles, is it needed to have a separate DPP for each color?	That will depend if textiles will have to have a DPP on model, batch or item level.
	If different colors contain different chemicals...
	For textile is dpp required at model level? If it is at batch or item level than DPP will be different for each colour.
	I imagine so, DPPs can be per item like our RFiD Threads connected to Circlolink App. Its important to assist sorting esp

	fibre to fibre recycling as different colours can have different chemicals. Ours is bulk scanning so this is simple to do.
	Same here our offering is also at item level which will finally be required to create a true circular economy.
	I expect that this is in the responsibility of the DPP issuer. If you cut 10 different fabrics in one production order the situation is different, than if you sell one style to a big retailer in one Production order. The final decision is open yet, though.
For textiles, will DPP also contain information on all processing facilities, from raw material to ginning, milling, dyeing, to garment assembly? Many of the most serious environmental and social risks occur in deeper levels of the value chain, yet most companies only provide Tier1 transparency now.	By my knowledge, this will be determined in the next milestones of the JRC study for textile, which (milestone 1) has just been released. More information at this JRC website: https://susproc.jrc.ec.europa.eu/product-bureau/product-groups/467/home
Hi everybody, Is there any collection report of the current national initiatives for textile DPP?	No but just google DPP for fashion
	Please also check the dataset of the DPP related initiatives (you can filter by section) and the report. https://cirpassproject.eu/project-results/
In terms of textile production, only 30% of the textiles are produced in Europe, on a legislative level are there already international efforts to make it mandatory to implement the DPP in the textiles - how do you make sure it is implemented?	The DPP will not only be mandatory for the things produced in the EU, but also for those imported into the EU
	As a producer of goods, you are only able to sell products to Europe, when you are able to provide the DPP data.
	So, in 2030 100% of the textiles, imported legally to the EU are supposed to have implemented a DPP?
	Products made from textiles by mid 2027. I know department stores in USA asking brands to implement RFID asap even though USA are not legislating like EU. Early adopters will catch customers attention more/first I assume which would be good PR for them.
In the textile mobile app, 1) what sustainability certificate does the product has? 2) Does it have the carbon footprint of the product entire lifecycle?	In most cases an App or PWA can present or link to any certification that is available for that product. So, for example if the economic actor is collecting or storing full LCA data for the product then this can be presented. Using the products GTIN as the primary key to align the data
	Okay, does it have the carbon footprint of the product entire lifecycle?
Is there a limiting value for digital passport for garments I.e. Coats yes, underwear, no?	I think if it's being sold then it requires a dpp
	So, a 5 pack of sox is going to need 10 rfid tags? This seems excessive
	DPP will be at batch, sku or item level. In the use case you define, it will be 1 digital ID. as the item is a 5 pack of socks.

	UHF RFID could not be used practically as it is not end user readable. So would be NFC or QR code
On the textiles case: how do you explain the rating system for the various sustainability categories? Shouldn't we aim for transparency in terms of absolute impact figures, rather than a scoring system that is based on assumptions like scope and selected impact categories?	Agreed! One approach for product specific fact based sustainability assessments instead of comparative scoring are the Circular Design Criteria of circular.fashion complementing existing standards and filling gaps with requirements for recyclability and longevity to make it defined and measurable.
Regarding delegated acts, for textile. Who is working on it? Some experts of the sector? Some companies are involved, if yes which type of companies? Only people from EC and a public consultation will be available? And if yes, when? Many thanks	Here you have access to the JRC work, who is involved, the timeline. Plenty of opportunities to get involved. https://susproc.jrc.ec.europa.eu/product-bureau/product-groups/467/home
Regarding textile SMEs, is it a possible approach that the brand name/retailers (the ones at the top of the food chain) are ultimately responsible for the DPP, instead of "passing the buck" all the way down to hold the SMEs at the bottom of the food chain responsible by way of fines etc.?	Possibly this could be an approach for all industries
	The view is wrong. The brands are responsible. They will need data tough from the suppliers, so we need to equip all value chain stakeholders with a joint data standard and corresponding it tools, based on this standard, that the generation of the DPP data ideally is less manual effort as today.
	Guess the question is who is the responsible economic actor that puts products into the market?
technical textiles such as fabric roll, which is used for apparel production or car interior production, those are still expected in first priority category of "Textiles"?	Based on current knowledge the delegated act on textiles will focus on garments and shoes not on technical textiles (unless used for garments).
	It's a finished product like technical textiles for activewear so the textile fibres and chemicals will need to be on DPP on the product but if you manufacture textiles then you supply that data to your customer to add to their DPP
	Why the manufacture of textile don't need to generate DPP? product category of TEXTILES and FOOTWEAR defines technical textiles for industry in scope I thought.
	Is really for manufacture of textile no need to generate DPP? product category of TEXTILES and FOOTWEAR defines technical textiles for industry in scope I thought.
Textile example : a jeans, produced in Europe, made with woven fabric, zip and buttons produced in Europe and having their own DPP. How the jeans manufacturer will manage? He	The jeans manufacturer will receive supplies of weave, buttons, etc from their suppliers. Those supplies should have their own DPP which is not the same as the jeans DPP.
	The link between the jeans DPP and the material supplies DPPs is (at least for UNTP) made using the traceability events structure. Based on GS1 EPCIS standard

will create a new DPP combining the intermediate products DPP? Or can he use one the DPP's? Which one?	So, the jeans manufacturer is not the issuer of DPPs for cloth and buttons - they are the receiver / verifier of them. the issuer is the upstream supplier
Textiles = only apparels? Or home textiles too?	Current wording is garment and shoes.
	Curtains, bed linens, towels, kitchen clothes, pillow covers etc etc ?
	Indeed, because there are also textiles in industries like airlines (cabin refurbish), hotels (chairs, curtains), etc.
	Here you find more and first-hand information: https://susproc.jrc.ec.europa.eu/product-bureau/product-groups/467/home
The economic operator who places the product on the market must create the DPP. But the product can be a final product or an intermediate product? Example for textile: a roll of fabric made for a shirts production. But fabric becomes leftover. The fabric roll must have his own DPP?	This is possible. The information of the fabric QR can be used by the production facility
	The DPP will need to be available at the finished product level that will be introduced on the market
	Customers purchasing textiles need to ask supplier required material data, origin, I hope also required reporting on chemicals, Modern Slavery Act & preferably Living Wage Standards. Circularity reporting should remain separate from wages/conditions as some brands conflate the 2 so they look good.
Transition period for Textile DPP? Planet 🌎 will not wait transition but expect acceleration to save it	Textile DPP is anticipated for late 2027.
	And no need to wait in preparing your organization 🙂
What will happen to stock textile articles which are already available in the market in 2027? How can datas been collected backdated to create a DPP?	The obligation of DPP currently is triggered by "putting on the market". So, no obligation IMHO. But nobody prevents the creation of a DPP by recyclers/second use factories with their own ID.
	At present it seems, that products issued before the day when DPPs come into effect, are not obliged to have on.
Would item-specific in the case of textiles also mean a unique identifier per item? So, for example in a batch of 500 sweaters, each specific sweater has a unique id?	Yes
	Is an easy solution. Please contact if interested in RFiD threads
	Thanks! I am just concerned this is not feasible from a production standpoint. As this would mean that for every single sweater, the factory has to add a different QR code. Are the ways in which this process can be simplified?
	The QR codes can be autogenerated (with a model- or variation-level identifier given as a basis which is then serialized). The labels are then produced and given to the producer as a batch - the producer just sews in (any) one of the codes per sweater - this identifies the product for the first time

Sectors - Others

Questions	Answers and discussion
Could you share info link to luxemburghs DPP building registry that goes live 2025? Thanks.	They are still working on the specifications… I have a reference linked in French to the national action plan for low Carbone construction sector https://gouvernement.lu/dam-assets/documents/actualites/2023/06-juin/14-turmes-construction-decarbone/20230614-mea-mecdd-cncd-pres-feuille-de-route-construction-bas-carbone-luxembourg.pdf
Can we expect the DPP also being applicable to e.g, ships?	Specific product groups should have their own DPP-related regulations in the future.
	Thus far not yet as an explicit product category. However, components of ships e.g. steel are on the short list for DPP coverage.
Hello, what is the definition of Energy related products? What kind of products are under this denomination?	https://eprel.ec.europa.eu/
How is DPP planed for Rolling Stock products like locomotives, trains, metros, trams? And when will it become mandatory?	Rolling stock products are currently not in the EC's focus for the next sector DPPs to be introduced, as far as I am aware.
Right now, construction companies are offering to develop Material Passports, should I consider anything developed by a construction company as possibly not compliant with the DPP	Consider anything developed by a construction company as a first step that you may easily re-use in a DPP system
	Is there any framework available for what a DPP will look like in the future?
	You can have a look at the current ESPR proposal to see what is already in there
Should we also expect a material passport? Or will this be linked to the DPP?	Apparently steel and iron are likely next candidates for an ESPR delegated act. These can be likened to "material passports".
	UNTP assumes a passport for every upstream goods shipment. That includes bulk materials, subcomponents, etc. But these are different product passports. The connection between them is through traceability events
	And chemical passport to monitor use of substances of concern?
So far, the digital passport has been presented for electronics, batteries, textiles. Will there be any information about the vehicle circularity passport? Which opportunies it could have, if extended into the use phase and beyond (repair, technical	Yes, that's the plan, although, we do not think that this will be mandatory. The system can carry all information about an instance of a product, if needed

inspections, CoD, deregistration, ...)?	
Very well kept together from all presenters, thank you! We need to know more details to be able to prepare for all product groups in the potential list (The elephant in the room)?	Please see the priority list from the draft ESPR https://www.consilium.europa.eu/media/69109/st16723-en23.pdf
We got demo from Textiles and Battery. When it comes to intermediary products of steel and iron were mentioned as first ones in scope of DPP, what data do we have to start the pre study and analysis? When can we expect more details on these	According to the Commission, the Delegated Act on Iron and Steel are in the works.
Will also construction products be considered soon after the pre-identified products listed?	Please look into the constructions product regulation that will have a dpp element
Will building level passports follow in the future after DPP/Material Passports?	For buildings, I don't know, but the Construction Products Regulation is aligning with the ESPR on the passport. You can find a link to the CPR until Resources on the CIRPASS website.
	Yes, at present knowledge, under the Construction Products Regulation. Note that it may be different from the ESPR DPP.
Will the JTC 24 DPP also work on, or consider the provisions of, the product passport described in the Construction Products Regulation?	Accordingly, to sReq
Will there be an exhaustive list of products these requirements apply to? If so, how will this be published/maintained?	The ESPR foresees so called delegated acts in Art.4 Those will provide more details
You mentioned DPPs could theoretically regulate any product, also intermediary products. Does this also apply to the architecture, engineering and construction (AEC) industry? A lot of research has been done here into so-called material passports (MPs), DPPs equivalent in AEC... conflict?	I suggest you take a look at this update on the Construction Products Regulation, which includes reference to a construction products digital passport: https://www.consilium.europa.eu/en/press/press-releases/2023/12/13/circular-construction-products-council-and-parliament-strike-provisional-deal/
	Thank you!!

DPP implementation timescales

Questions	Answers and discussion
Approximately when in time can a mandatory legislative be implemented on Textiles? Is it beyond 2027?	As per timeline communicated this morning - mid 2027
	Implementation of DPP for textiles by mid2027 but the delegated act is expected for second half of 2025
Are there any ideas how DPP for chemicals will work? Any ongoing work available please?	"For the first working plan the Commission should prioritise iron, steel, aluminium, textiles, notably garments and footwear, furniture, including mattresses, tyres, detergents, paints, lubricants, chemicals, ICT products and other electronics and energy related products needing to be revised or newly defined." This is a quote from the draft ESPR available here: https://www.consilium.europa.eu/media/69109/st16723-en23.pdf
If the DPP is going to be mandatory by 2027 - will it be mandatory for 100% of the textile products to have implemented the DPP or will it be implemented step by step: 2027 - 10% of the products, 2030 - 20% etc. when will there be information on this?	2027 applies to batteries only, not all product categories
	What are the DPP milestones for textiles?
	But it shall be mandatory for textiles too (as second industry after batteries) from mid of 2027 on. Based on our information, this is the plan from the EU commission.
What is a realistic timeframe for a DPP on IT equipment? 2027, or even later?	Depends on your role. DPP provision? I would say very little, see later video from Staffon Olsson (GS1)
When is the rollout of the DPP for textiles and electronics foreseen?	Roll out of first DPP's will happen from 2027 onwards
	In the current plan. Textile delegated acts would be enforced from mid 2027 (including 18 months after publication)
	There is currently no date for electronics
	Is there a source for this timeframe for textiles?
Which order the product groups will be regulated in ESPR? Can we interpret that the Textiles, electronics, and batteries come first?	I wonder the same thing, and also: what is included in textiles? Will it also include packs and bags, tents, awnings etc? Or is it solely textiles used in apparel?
	Exactly, what subdivisions: home textiles or only apparels?
	First Textile, iron and steel, then no priority (yet)
	Please clarify. Textiles = only apparels or including bed linens, curtains, sofa covers, towels, kitchen clothes, etc etc in home textiles?
	https://susproc.jrc.ec.europa.eu/product-bureau/product-groups/467/home this link was referred to for similar a question asked by someone else

	As per the above link, the scope of textiles would be finalised by Apr 2024
	Note that batteries are already regulated via the EU Battery Regulation with regards to the required content. The regulation has been in force since August last year. DBP will become mandatory as of February 2027. Some data details are (going to be) covered by Delegated Acts.
Will be the DPP for textiles be mandatory by 2027 or 2030?	Current forecast says late 2027

DPP implementation

Questions	Answers and discussion
For the system to work for everyone (SMEs and large groups), it must be standard and easy to use, must also meet multiple objectives. Regulatory and business process. One way or another, stakeholders need to maintain and update data... how could this be done in the least costly way (price& envt)?	The key is maximum data re-use and easy enrolling of people/enterprises into the system. The DPP should be a simple fallout of something companies do anyway
	Agree. that's why we hope to bulk manufacture RFID Threads, so SMEs and multinationals purchase DPPs at same low equitable price plus use App via subscription. It's the only way to ensure affordable to all stakeholders. We hope to get support to manufacture in India, Bangladesh, Turkey etc
Great comment: where are the operators in the room? Creating DPP is not technically difficult - it is just like anti counterfeit solutions (just with more data). Issue is implementation because this is not a standard play (and having the variances between batches made available at point of sales).	During the entire project, CIRPASS has talked to many many operators. There is still a lot of room for guidelines and consulting left. We made good experience there
	Agree. The largest effort will be collecting cradle to gate supply chain data. These processes and associated costs are still vague
How can SME´s already start to be prepared for DPP in 2027? Which steps are already necessary to be considered?	Great question. CIRPASS has prepared a report on implementing DPP for SMEs, which will be discussed and mentioned later today. This helps to start the further dialogue and discussion on the topic
	Kamila Kocia will present on this later in the day.
Is there a extended list of products affected by Dpp and when dates will make it mandatory for telecommunications systems !?	Co-legislators have pre-identified a number of product groups the Commission should prioritise: Iron & steel Aluminium Textile, notably garments and footwear Furniture, including mattresses Tyres Detergents Paints Lubricants Chemicals Energy related products ICT products and other electronics
	Can we deduct from the last presentation (6. Implementation work ahead) that the product categories for 2027 will be only textiles and steel?
	What does this include - "Energy related products ICT products and other electronics"? -> does this concern B2C products/consumer electronics or also complex B2B products as well?

Many of information and data needed for performance requirements are ambiguous in the JRC report. When can we get more information on how to quantify, how to measure the threshold etc?	This will need time. You should check on a regular base here: https://susproc.jrc.ec.europa.eu/product-bureau/product-groups/467/home
Putting DPP requirements will put economic stress on manufacturer and suppliers, what are the incentives to drive this transition?	I think the key one is the opportunity to differentiate products based on sustainability performance. This gives buyers the data they need to inform their own corporate disclosures AND the information to choose (and pay premiums for) more sustainable supplies
	The closer to finished product manufacturing, the more the impact of material inputs on corporate sustainability - eg scope 3 emissions.
The estimated cost of the DPP must take into account the entire life cycle of the product and the DPP itself. Who will be responsible and who will pay? The economic operator? - even if the product never returns to him? (storage, maintenance, update data)	yes responsibility will be with the economic operator, who places the product on the market, through the entire lifecycle. Exception: Responsibility will shift to a new economic operator, if a product is repurposed
	Also, a new DPP must be issued then
What are your thoughts on managing the complex dynamics and incentives among legislators, stakeholders, data providers, and solution integrators to support a holistic outcome for the DPP and its objectives?	Those are social challenges. The system should help to tackle those social challenges, not stand in its way. But the projects can't predict how those social challenges shake out
What's the cost of DPP for SME in the supply Chain? Is it affordable and easy deployable?	There's a report / presentation related to DPP implementation for SMEs later on today.
Who will foster DPP? Chief Sustainability Officer? In textile, COO & CFO will be the key decision makers and sponsor as this sector still think double digit growth with unpredictable consumption and massive volume of production disconnect from demand and manufactured in low labor countries …	Whoever heads the DPP implementation at the economic operator should be in a position to turn the DPP from a compliance topic into a business opportunity. It should be someone with decision-making power. Thus, the COO could be a good choice, if they meet these requirements, it depends on the company.
Absolutely agree that more economic operators need to be involved in these discussions. How can CIRPASS 2 support this?	We need to stimulate the IT providers for the stakeholder - otherwise they want but cannot do it. This is ongoing work in the textile sector aside of CIRPASS work - but in an aligned way.

DPP-related solutions

Questions	Answers and discussion
Are there already companies identified to supply the data platform that will feed the DPP or feed DPP data down to the products?	By my knowledge no.
	I am working on a solution for this - cleeo.se
	In Idunion we are also working on a solution. This will be available in April 2024. Attached the paper https://idunion.org/wp-content/uploads/2023/04/2023-03-27_IDunion-AP-10.5_Whitepaper_V1.01_final.pdf
Are there any ongoing collaborations between European Digital Identity initiatives and DPP work? For instance, EU consumers will be able to have a digital identity wallet to request and share verifiable data, check organisational credentials, etc.	I believe the Commission is looking into this but rather for businesses. Unfortunately, I do not have a lot of information on this right now.
Are there certain processes/requirements for the development of a DPP framework (e.g. "recommendations for the DPP of construction products") or could any organization start such development and input the outcome to the EC for consideration in delegated acts?	There are, and will be more, details on DPP system requirements and standards developed and recommended, that organizations can refer to, to develop their own DPPs. There are also multiple companies already having their DPP or DPP-like initiatives (see CIRPASS reports on website).
	I'm not sure what "input the outcome to the EC for consideration in delegate acts" means? If it means providing feedback for specific delegated acts, it falls under public consultation for regulation development, which is an entirely different process.
Before publishing detailed legal requirements for DPP on each product, do you think using DPP voluntarily base by company in EU market? Not for the compliance, but for consumer demand?	Yes. Many companies are already providing such DPP-like services today.
	Do you have any specific examples, eg. a live product page
	As mentioned with lots of DPP-like services provided today, will it create same chaos like the green claim directive to authorize only certain authorization DPP only? Otherwise, too many will create a lot of misleading in industry and also data trust.
	I can help explain. search me out in LinkedIn - CharmingTrim
How do we have an opportunity to participate in DPP pilots offering Circlolink's B2B tool; washable bulk scanning RFiD THREADS® plus B2C NFC please?	You should know, since you are the Co-Founder!! It says a lot about the company if you need to drive awareness with misleading questions.
I'm building a solution for implementing the DPP to create Circular business models for the fashion industry by focusing on the consumers journey with products. Have anyone any inputs	https://cirpassproject.eu/dpp-related-initiatives-dataset/
	Thank you

of other solutions working to implement circularity through the DPP?	
Is there a list of existing application, software products which can help to deploy/ support the DPP system?	DPP service provider ecosystem is expected to grow and provide all types of products / solutions that a company may need to implement DPP. There will be a presentation later on today on this.
It's great to see decentralised solutions, would there be an opportunity to put a best-case for a DPP tool so the market can take advantage of bulk production to lower base price providing an equitable, single low cost per DPP & help engage all stakeholders e.g. from students to multinationals?	The system is web technology based. So, this is possible, but so far, there is no initiative
Thanks for the insightful UNECE presentation. Will you be able to share more details on the demonstration projects which you referred?	yes, sure. we will be encouraging publication of implementations on the UNTP website. https://uncefact.github.io/spec-untp/. It's still under development (so lots of empty / incomplete pages) but will get fleshed out between now and June 2024.
Which ongoing initiatives are taken in scope in the research done by CIRPASS? Is the list of initiatives available?	Here's the info on CIRPASS website https://cirpassproject.eu/dpp-related-initiatives-dataset/
	Analysis is present in report https://cirpassproject.eu/project-results/

Certification & validation

Questions	Answers and discussion
Trust with DPP data/information? 👁 Based on the video of the app showcasing Certificates; are there plans that such Test reports and certificates NOT be as attachments but rather linked to Certification database? Will an entity be checking that information is authentic?	Good point! I think that certificates should ultimately be traceable to a certification body and found in their registry too.
And who will certify the DPPs? because I think the DPPs have to be certified.	Do you mean who will certify the sustainability performance in a DPP? or who will certify the technical interoperability of a DPP solution?
Are there any plans to certify data solution providers, in order to reduce the risk of choosing a non-interoperable system? How can a company be sure that the solution it chooses will be the right one in the long term?	No need to "certify" for much money. We can validate them against data formats used. This is what I presented with the SHACL control engine
	Which is different from 3rd party service providers, where certification is a legal requirement
How do we ensure the data coming to DPP is from verifiable source? Is EU planning to issue verifiable credentials to supply chain players?	You can add provenance data (see W3C provenance vocabulary) to the DPP (non-mandatory) and secure that
	As pointed out by Michele Galatola in the beginning of the day, the accountability for completeness and veracity of the data made available via the DPP lies with the economic operator. Numerous ways of achieving that exist.
How do you envision the auditing process for meeting the requirements to avoid "greenwashing"	Data is stubborn and can be analyzed automatically
	In my humble opinion, the data that are stored or created by a product have to be protected to reduce the appetite for data tampering.
How will EU authorities ensure that the content of the DPP is correct for imported products? What kind of market surveillance/factory control/etc. is envisaged (and feasible) for these?	Compliance monitoring in regard to the DPP can be divided into: 1) verification that a product has a DPP, 2) Verifying the information content in a DPP, and 3) verifying the compliance of product with regulation - using DPP data
	Thank you very much. And regarding point 2, what kind of procedures will be put in place to verify that the information inserted in the DPP is correct? Will this be defined per product category in secondary legislation?
	+1 for above question
	In digital era it is easy to implement peer-evaluation for some information in DPP 😉

	UNTP includes a digital product conformity credential that aims to add 2nd or 3rd party verification of sustainability claims made in DPPs
	Indeed, very interesting presentation Steven Capell! Ville Koivisto, how would you do a digital peer-review on a claim on, e.g., recycled content in a part? Will you "digitally" monitor the operator's actions/production data of plants anywhere in the world? Does not seem that easy, nor legal, to me 😉
	The idea of peer review (or 2nd party verification) is likely to play a key role in future trust architectures. Formal 3rd party certifications by accredited auditors are certainly an important part of the trust landscape but not the only one
	Okay, thank you for sharing these inputs! I'll follow this carefully then.
Product authenticity is required for DPP to fully function - otherwise you copy a QR code and slap it on a fake product and get pointed to the legit DPP data. How is the EU intending to support brands in that aspect?	The assumption is that whenever needed, the DPP data connected by the data carrier will contain information on any security/verification functions attached to the product.
	Data carrier is different from Data link. Both could be secured. Secured data carrier QRs exist (sQR at DENSO) - even some specific labels could be used -, secured links exist (VDS and equivalent could be used)
	Or vice-versa: How do you prevent a non-EU country from faking a QR sticker that leads to a fake DPP, with whatever information they would like to present there?
	Conformity of the DPP content will be checked before the product is placed on the market
Threat: Fake Information - No reliable DPP without reliable Identification and authentication of legal persons/companies and products (=trust). Are you agree? What are the most promising solution approaches to reach trust, still regarding data protection?	For recyclers I disagree. There are means to make data reliable, but this is a lot of overhead. I wouldn't require this upfront
	We support recyclers especially fibre to fibre to remove potentially harmful chemicals at the sorting stage is easy RFID Threads manual or bulk scanning can flag the presence of such chemicals. Does not need to have the % of the chemical to maintain the brands IP but just the presence.
	Trust is built in so users e.g. recyclers or customers can access brands verifiable data. Yes, they enter data themselves but must be backed up with verifiable certifications, Standards etc and easily accessible on their own website.
	The answer is "ESEDS": SReq Module : 7. ...The standard(s) shall establish a framework for ensuring trust, interoperability and interoperation via secure and reliable electronically signed encoded data set (ESEDS) schemes for multi-actor applications in multi-sector
When do we expect a decision on whether or not there will be a	Governance rules and requirements for the DPP, including a possible certification scheme for DPP service providers, will be defined via Delegated Acts that are expected for 2025.

DPP Service Provider certification scheme?	
Where can one find more about certification of DPPs like regulations and also how those certifications will be handled practically?	For the moment, AFAIK, only service providers providing turn key DPP solutions to companies, need to be certified. The Commission will provide further information. This is out of scope for the projects
Which authority does verification and validation of DPP?	verification means third party attestation - so the authority is whichever certifying body is accredited to issue the certificate.
	Validation is more of a technical thing - the consumer of the passport will typically verify digital signatures etc using their preferred app/software
	Thanks.
Who is responsible for the DPP data accuracy - especially the mandatory part? What to do if a producer gives wrong /fake data?	The economic operator is responsible for the correctness of DPP data. Like for any other product information, if false data are provided, this could have legal consequences.

Customs

Questions	Answers and discussion
My question is about customs, as far as we know some intra faces of the DPP will be open to the customs authorities, but we are not sure what kind of information will be open, for what reason meaning that will there be new responsibilities for customs?	AFAIK, the system will just help the customs to do their normal job in an improved way. There is no scanning expected, they are rather information centric means they start from the data, not from the product.
Customs will be able to verify the existence of the DPP for a product. But will they be able to check all products? And I guess they will not be able to verify if the info is right. So how it will be managed?	I can't speak for EU customs specifically but in general, most customs authorities only inspect a small proportion of physical shipments based on risk profiles. I think what is meant by 100% verification is at the data level
	- So, if an EU customs entry is for a product commodity code which requires a DPP then I'd expect the customs entry to include a product identifier that is resolvable to a DPP.
	As mentioned by the Commission representatives in the initial presentations, DPP registry is meant to be connected to customs authority systems. This would allow digital and (partially) automated check-in at least of existence of the DPP.

Other

Questions	Answers and discussion
DPP data and AI: what main benefits and challenges you could identify?	The DPP Data is using formats from symbolic AI. And we actively use those features. We start simple, but there is a lot of potential.
How about the localisation requirements like information availability in local languages? Are the requirements finalised?	To my current knowledge, no.
I assume that the low fines are for SMEs only, right?	Correct, that is what we propose in the roadmap to facilitate DPP introduction for SMEs in textiles.
Is GS1 also participating in JTC24?	Several experts around the world, employees of several GS1 MOs (Member Organizations), are talking part as experts thru their local normalization entity, in mirror commission to JTC24 such as AFNOR, DIN...
Is there already a defined methodology for how to perform a LCA/calculate the PEF? And is the rest of the data requirements specified somewhere?	This will be part of the future delegated acts Yes, but is there any proper way to prepare as a manufacturer within EU?
The EUIPO (European Union Intellectual Property Office) is a partner of the CIRPASS project. Is specific work being done in collaboration with Intellectual Property owners, including patents and patent applications related to the Digital Product Passport?	Thanks to the SME Fund that offers financial support to small and medium-sized enterprises (SMEs) established in the European Union.
When are the final results of the project (CIRPASS) expected?	I think we will publish this month CIRPASS ends this month. So, all results will be available very soon.
When will the PI4.0 Report be published?	The German Environmental Agency will publish the report in the next months (approx. end of spring / beginning of summer). Also, the front-end demonstrator will be published with it.
Which System will be used for commodity Systems?	What do you mean by commodity Systems?
Which System will be used for commodity Systems?	My question is about M. Galatola's presentation where he mentions « commodity code » see slide « EU DPP (central) registry and web portal.
DPP data and AI: what main benefits and challenges you could identify?	The DPP Data is using formats from symbolic AI. And we actively use those features. We start simple, but there is a lot of potential.
How about the localisation requirements like information	To my current knowledge, no.

availability in local languages? Are the requirements finalised?	
I assume that the low fines are for SMEs only, right?	Correct, that is what we propose in the roadmap to facilitate DPP introduction for SMEs in textiles.

Funded by the European Union

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Health and Digital Executive Agency (HaDEA). Neither the European Union nor the granting authority can be held responsible for them.