

Supporting Sustainability within the Sail Cargo Alliance Ecosystem

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Abstract

This paper provides a case study focusing on how transportation and marketing bespoke products as “sail cargo” can promote the common good. The context is the Sail Cargo Alliance, who established in 2017 a set of geographically defined “Sail Cargo Divisions”, each aiming to ensure sustainable trading of sail cargo in their locality. We assess the implementation of this aim in each division on a set of four *key sustainable development enabling factors*, namely 1: Presence of a direct trading system with safe transportation routes; 2: Ability to build an entrepreneurial innovation cluster; 3: Ability to promote transaction-based sustainable tourism within the local community; 4: Presence of communication facilities for provenance exploration, authentication and demonstration. The results reveal that poor performance on factor 4 led to the failure, in 2023, of the operating companies for all Divisions except Sail Cargo London, whose operating company (Raybel Charters) had implemented in 2021 an innovative business model enabling it to bounce forward. We describe how the future sustainability of every Sail Cargo Division could be enhanced by implementing the *Sail Cargo Provenance Creator App*. We provide the specification for the proof-of-value use case currently initiated within the transformed Division: *Sail Cargo Channel*. The results from this use case can guide the future sustainable development of all the Sail Cargo Alliance’s Divisions for the common good.

Keywords: *social innovation, sustainable development, enabling factors, entrepreneurial innovation clusters, cluster-building bottom-up, sustainable decision support, sail cargo*

1. Introduction: Sail Cargo for the common good.

We tend to think that the days of sailing cargo goods across oceans were nostalgic, romantic and very over. We can still imagine the time when local spices, new animal species and vegetables from the new world voyaged for months in sailing ships to European ports to replenish cities’ markets. Since the first large cargo ships were built in the 1930s, the days where cargo ships needed to rely on “wind power” to cover long distances have been left behind. In reality, the Cargo container ships, currently a fleet of 90,000 vessels, switched from environmentally safe wind to relying on fossil fuel producing sulphur oxide air pollution and carbon dioxide emissions.

Since this form of transport currently contributes enormously to pollute not only our oceans but also all of our planet, we want to contemplate and support a re-introduction of transporting cargo by sailing ships through exploring and examining the value and contribution that the members of the Sail Cargo Alliance can make. We believe that the initiatives they propose and are now implementing will be successful: as evidenced by their performance on what Humphreys and Luk (2022)¹ identified as *four key sustainable development enabling factors for bottom-up local development of SMEs* (Small and Medium Enterprises). That is, these initiatives collectively support all kinds of sustainability, from physical-environmental to social/cultural innovative forms, that are financially sound and contribute to the real economy.

1

In the sections below, we present first the background context for the case study, followed by its assessment under our four key sustainable development enabling factors. Subsequently, we discuss the implications and significance for local economies and provide a pilot use case on *Regeneration of Sail Cargo South East as Sail Cargo Channel*.

We end with conclusions about what we can learn and the benefits this case may bring in promoting the common good and informing our fight against climate change.

1.1 Air pollution problems resulting from carrying goods by sea.

Currently large ocean Container ships take enormous amounts of cargo to their destinations across the oceans, in colossal amounts and at economical rates. In the UK, 15% of all food we consume is imported this way. While this is good for food consumer's wallets, most of these consumers never find out about the negative effects this transport method has on the environment (George,2013). In fact, the 15 biggest ships produce more sulphur oxide air pollutants than all the cars in the world (Toepfer, 2019). Moreover, the European Union's Climate Action (2020) has reported:

" In 2018, global shipping emissions represented 1,076 million tons of CO₂ and were responsible for around 2.9% of global emissions caused by human activities. Projections show that these emissions could increase by up to 130% of 2008 emissions by 2050."

But when cargo is carried by sailing ships, there is very little air pollution generated from burning heavy fuel oil. When fitted with an electric motor propeller drive (in place of an oil-burning engine), that drive can also generate electric power while the boat is moving under sail, which is stored for use when the boat is not under sail (i.e., when in port or manoeuvring against the wind). Thus, the sailing ship has zero consumption of fossil fuel and it will generate no air or sea pollution.

1.2 Advantages of carrying goods as sail cargo

By using the clean power of the wind, we create sustainable and healthy transportation treading as lightly as we can on the earth's resources, sailing ships facilitate a direct economic alternative for trade, shipping authentic, ethically and locally sourced, cargo of exceptional quality and providing a transparent, high quality and reliable service at a fair price that reflects the real value of the journey. This empowers communities and individuals and ensures the ability of future generations to enjoy the natural world that sustains us.

2. The Sail Cargo Alliance Ecosystem and its participants

Sail Cargo Alliance is an informal membership association that brings together people *and organisations who share a passion for sail-shipped cargo, working together in an ecosystem* with shared ethics to create a healthy transport culture that promotes the preservation of the environment for future generations. The Sail Cargo Alliance's objectives are:

- To develop an alliance of people and organisations who share a passion for sail-shipped cargo, working together with shared ethics to create a healthy transport culture that promotes the preservation of the environment for future generations.
- To support networks of farmers, sailing ships, traders and 'port allies' within an ecosystem that delivers food and drink across seas and oceans, emissions-free.
- To care about the quality of the produce shipped as Sail Cargo, prioritising organic, nature-friendly and fairly traded produce from small-scale farms and co-operatives, packaged that reaches end-user via a short and direct supply chain: a transparent way of trading that cares for both people and planet.

- To promote activities that are built on the realisation that the current system of global trading needs to change if we are to have a healthy planet that sustains all of nature, local produce and local suppliers which are crucial to this future and across the seas.
- To encourage the transport of this produce by Sail Cargo to customers: bringing us healthy commodities that we enjoy, are good for us, and what cannot be grown locally.
- To appreciate that sailing ships use the eternal power of nature's forces: the wind, the tides, the long ocean currents.



Coffee beans producing **Agent:**
Cooperative in Colombia



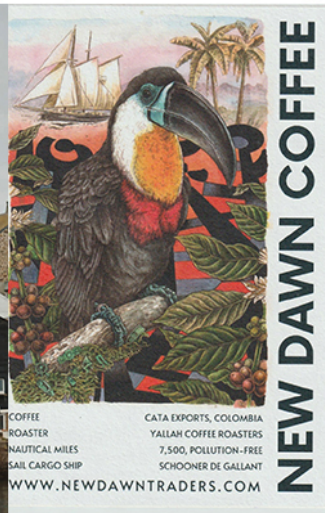
Sail Cargo **Voyage:**
Santa Marta, Colombia to Penrhyn, UK



Sail Cargo **Ship:** De Gallant
leaving Trinidad for Colombia

Sail Cargo Alliance Ecosystem

Transaction: Delivering Sail Cargo in Penrhyn, UK **Entity:** Coffee in retail package **Agent:** Port Ally in Newhaven, UK



2.1 Types of participants in the Sail Cargo Alliance Ecosystem

The *Agents* participating in the Sail Cargo Alliance's Ecosystem include *bespoke food product Creators* located in small farms and cooperatives, *Sailing Ship Operators*, *Trading Hubs* (who package and distribute the live provenance sail cargo products for retail sale), and *Port Allies* (who publicise and sell certified sail cargo products to customers in the area where their port is situated).

The *Entities* involved in Sail Cargo *Activities* within this ecosystem are *bespoke food products* that are created by/originate from Agents with the ecosystem, carried on a *Voyage* in a *sailing ship*. The *Transactions* of these Entities between Agents within this direct supply chain serve to bring us (consumers/end users) healthy commodities that cannot be grown locally.

2.2 The Sail Cargo Alliance's UK Divisions

In 2017, the Sail Cargo Alliance established geographically defined *Sail Cargo Divisions*. In the UK, the initial divisions were identified as Sail Cargo South West, Sail Cargo Bristol, Sail Cargo South East, Sail Cargo London, Sail Cargo Kent and Sail Cargo Southend.

These Sail Cargo Divisions were not operational companies themselves. Rather, they are trading names. Each trading name was appropriated by a company who arranged with New Dawn Traders (a *Trading Hub* in the Sail Cargo Alliance, located in Penrhyn, UK)² to operate the Sail Cargo division as the *Port Ally* in their area and, as such, to sell sail traded goods. locally through (i) arranging quay-side marketing events to celebrate the arrival of a schooner carrying sail cargo products and (ii) arranging immediate delivery from the ship to local customers by carbon-free transport (electric vehicles, bicycles, rowing gigs, etc.), together with continuing sales at local food markets.

2.3 Sustainability problems faced by Sail Cargo Division operating Companies in the UK

Throughout the period 2017-20 the Port Allies identified above succeeded in strengthening their *local food geographies* (Kneafsey et al., 2021) thus, providing the Port Allies with sufficient income to remain sustainable. But, during 2021-2023, nearly all the UK companies who had opted to operate a sail cargo division as a Port Ally ceased trading as such.

The main reason for this was that these operating companies had gained their income solely from sales of Sail Cargo goods but, owing to problems emanating from COVID 19 lockdowns and rising Brexit-related inflation, quayside marketing events were cancelled and publicity about and local awareness of the attractions and availability of sail cargo products was reduced. So, the volume of Sail Cargo products that could be sold by the Port Allies declined sharply, reducing their incomes, but not their costs, until they became nonviable.

The exception was Raybel Charters, the operating company for Sail Cargo London, which remained healthy and flourished throughout this period. In 2023, Raybel Charters took over the now defunct Sail Cargo Kent and Sail Cargo Southend-on-Sea to form and operate Sail Cargo London and Kent.

2.4 Why Raybel Charters survived as a successful Division operating company

“While there has been some investigation of the contribution of local food systems to community resilience (Dombroski et al., 2020; Sonnino & Griggs-Trevarthen, 2013), insights into resilience of LFAs [like the Port Allies described in section 2.3 above] themselves, be they businesses or community organisations, are a new area of enquiry particularly prompted by the COVID-19 pandemic (Benedek et al., 2021; Paganini et al., 2020; Tittonell et al., 2021). These analyses have, to date, focused on assessing local food system resilience as a bouncing-back mechanism. Here, we take the debates further by also investigating the bounce-forward potential of local food systems, i.e., their transformative resilience capacity” (Jones et al., 2022, page 210).

While the other Division operating companies (Port Allies, identified in section 2.3 above) failed to “bounce back” at the micro level within Van Wijk et al(2019.’s Micro-Meso-Macro model of scfor social innovation (as described in Humphreys and Imas,2022), Raybel Charters remained healthy at micro level because it had previously gained he resources needed to succeed at this through participation in activities located at the meso level that

² See <https://www.newdawntraders.com/> (accessed 21 December 2023)

provided them with the potential to “bounceforward” 2021 by adopting an enhanced version of the business model successfully pioneered in France by Blue Schooner Company.³

Van Wijk et al state:

“It is at the meso level where we see how actors’ interactions and framing produce the frictions, highlight the tensions, and identify or create the cracks behind the new opportunities for social innovation.”

For Raybel Charters, interactions with decision makers from New Dawn Traders and Blue Schooner Company during 2018-20 were seminal here.

Gallego and Chavez (2019) show that organizations like Raybel Charters whose business operations are generated and implemented at the micro level can gain, through a process of spreading and accessing success stories at the meso level, the resources they may need subsequently for making the innovations that enable their sustainable development. This process involves *adaptation* of the success stories to promote innovation activities bottom up, followed by and second *exaptation*, defined by the Oxford Dictionary as “the process by which features acquire functions for which they were not originally adapted or selected”

Gallego and Chavez (2019) . explain that:

“However, this whole process, in order to be effective in enabling new sustainable development, needs rules, applied at the meso level that can inform and direct initiatives implementing the exaptative push. These rules or institutions operate at an intermediate (meso) level of abstraction and consist of a set of cognitive, behavioural, technological and social routines that promote and inform social innovations”.

But the “rules” involved here cannot be pre-specified within a top-down framework. They have to be generated afresh through a bottom up socialised-interaction and generation process actualising the “cognitive, behavioural, technological and social routines that promote and inform the social innovations” that will be required for success within subsequent exaptation at the micro level in practice.

Here, decisionmakers work together at the meso level to anticipate the future needs to make such social innovations at the micro level. This work may be performed within interactive spaces for negotiating, co-creating, and imbedding social innovations that can be implemented at the micro level, when required in the future when the territorial context changes (Humphreys and Jones, 2006). Such activities can profitably push the emergence of novel problems for sustainable development in new contexts and provide facilities for implementing innovative and creative solutions in practice at the micro level, thus enabling successful “bouncing forward” within new or changed territorial contexts.

As a result of its participation in these activities located at the meso level, in 2021 Raybel Charters was able to bring into operation at the micro level an innovative business model that was “based around the themes of water, trade, transport, nature, heritage and people”⁴. In operation, this currently involves a mix of income generating activities including:

³ Blue Schooner Company operates the schooner *De Gallant*, carrying sail cargo and fee-paying sail trainees and leisure passengers. The company also functions as a Port Ally in Finisterre, where, in November 2023, it opened its own Sail Cargo boutique in the port of Landéda and on the Internet (See <https://www.bsc.sc/en/> for details).

⁴ See <https://raybelcharters.com/our-story/> (accessed January 10, 2024)

- Gaining national public funds (a grant from English Heritage), and from a host of individual crowd fund supporters, that enabled Raybel Charters to complete the restoration of Sailing Barge Raybel (built 1920 and now on the UK National Historic Ships register) prior to the commencement, in 2004, of a programme of voyages delivering Sail Cargo to Port Allies located in Kent and also, across the Channel, to Port Allies Belgium and the Netherlands.
- Carrying not only Sail Cargo on S/B Raybel's future voyages to Port Allies along the coast but also sailing trainees and tourism passengers who would pay to travel on S/B Raybel.

By having this mix of income-generating activities, Raybel Charters can surmount conditions which lead to temporary reduction in income-gaining capacity in any one of these Activities as its territorial context changes. For example, Raybel Charters could temporarily close its retail shop on the Open Food Network for the period January-February 2024 when consumer demand for its bespoke Sail Cargo products is low, as they were currently receiving substantial grant funding to finance the completion of its restoration work on Historic Sailing Barge Raybel⁵.

3 Assessment on four key sustainable development enabling factors.

Humphreys and (2022) identified four sustainable development enabling factors for bottom-up local development of SMEs, enduring throughout history and across national, social and cultural contexts worldwide. When implemented together, these sustainable development enabling factors promote and ensure all kinds of sustainability, physical, environmental, social, cultural creative/innovative and financial within the real economy (see Humphreys and Imas, 2022). Here we assess the Sail Cargo Division operating companies' performance during 2017-2023 on each of these factors in terms of its potential for enabling future sustainable development.

Factor 1: The presence of a direct trading system together with safe transportation routes: All the sail cargo division benefited from the safe direct trading system established by the Sail Cargo Alliance, and the use of voyages on schooners to transport these products.

Factor 2: The ability to build an entrepreneurial innovation cluster: By following the guidelines established by the Sail Cargo Alliance, each Division's operating company succeeded in actualising an informal "port ally" entrepreneurial innovation cluster, consisting of sail cargo product producers/originators, product processors (e.g., a local coffee roaster), local specialist retailers, event organisers and logistics experts.

Factor 3: The ability to promote transaction-based sustainable tourism within the local community: All the UK Sail Cargo Divisions engaged in local promotion of facilities supporting sustainable tourism by attracting visitors and resource providers to activities coordinated by their port allies and involving, resource providers. These activities included Sail Cargo delivery events publicised locally (e.g., when a schooner arrives at the port) and displays of "certified Sail Cargo" products by local retailers and market stallholders. Here, local resource provider can interact with visitors: "showing and telling" about their products and services, sharing know-how and transacting together in a way that meets their needs. The visitors also gain the opportunity to participate in local events and initiatives promoting sustainable development. However, this kind of transaction-based tourism attracts mainly day visitors rather than visitors who stay for longer periods. The exception here was Sail Cargo London and Kent who,

⁵ For details, see <https://raybelcharters.com/risky-business/> (accessed 28 December 2023)

in 2021-3, attracted longer-stay visitors successfully by publicising the opportunity for them to visit historic sailing barge Raybel and participate in her restoration.⁶

Factor 4: The presence of communication facilities for provenance exploration, authentication and demonstration: The Port Allies needed to establish the good provenance of the “certified Sail Cargo” bespoke products that they were considering procuring and selling to customers. However, under the typical trading conditions in each Port Ally’s location, the provenance of a Sail Cargo product, under consideration by a potential buyer, is explored and authenticated primarily through “word of mouth” techniques involving a face-to-face chat with the seller and seeking “reputation” opinions from friends attending local events promoting Sail Cargo.

The information about any particular Sail Cargo product’s provenance, gained in this way, is likely to be uncertain, impoverished and unverified, so gaining it adds little to increase the utility (subjective, virtual value) of a potential buyer’s appraisal of the particular product. However, Raybel Charters also placed a brief provenance-certifying statement on the retail packaging of each “Sail Cargo coffee” product that it sold identifying “*Variety, Process, Altitude, Roaster*”. But this statement did not identify the ship or voyage on which this particular product gained the right to be called “*Certified Sail Cargo*”.

4. Implication of assessment of Sail Cargo divisions: the universal need to support provenance building an exploration throughout the Sail Cargo Alliance Ecosystem

Table 1 gives the summary assessment scores for each UK Sail Cargo Division on the four sustainable development enabling factors identified by and Luk (2022). It reveals why the operating company for Sail Trading London (Raybel Charters) had a sufficiently good sustainability-enabling score for it to bounce forward during 2021-23, whereas none of the other Sail Trading Division operating companies could bounce back as they had insufficient overall sustainability-enabling scores.

<i>Sustainability-enabling Factor</i>	<i>Assessment score for Sail Cargo London and Kent</i>	<i>Assessment score for all other Sail Cargo Divisions</i>
1: Direct trading system with safe transportation routes	Good	Good
2: Support for entrepreneurial innovation cluster building	Good	Sufficient
3: Promote transaction-based sustainable tourism within the local community	Good	Sufficient
4: Facilities for provenance exploration, authentication and demonstration.	Sufficient	Inadequate

Table 1: Summary Assessment Scores

The biggest sustainability-enabling problem identified in Table 1 is the universal need to support provenance- building and exploration throughout the Sail Cargo Alliance Ecosystem’s Divisions in order to ensure that its remaining and future Divisions are sustainable.

⁶ See <https://raybelcharters.com/volunteers/> (accessed 30 December 2023)

To appreciate this claim subjectively: imagine the increase in the utility of a “Certified Sail Cargo Product” that would be gained for a customer considering buying it if he or she was able to explore the *live provenance* of the product in rich audio-visual language (Humphreys and Brezillion, 2002; Lorac, 2020) creating a virtual world bringing alive the stories about the transactions and activities in which that product was involved (e.g., harvesting and washing the product’s constituent coffee beans on a family’s farm in Colombia, transporting them on a voyage across the Atlantic on schooner De Gallant to a port in Sussex followed by carbon-free delivery to a local coffee roaster for packaging for retail sale).

The customer-explorer can now imagine his or her own participation in this provenance - building world (Berger, 2008) and this creates real added value in the mind of the potential customer which can be reflected in an increase in the “reasonable selling price” for each live provenance-certified Sail Cargo product, and also an increase in the volume of products sold at that price.

Hence, in section 4.1, we describe the ontology that needs to be incorporated in an App that could provide interactive support effectively for a user desiring to explore live provenance in the way that we indicated above. This is a particularisation of the World Wide Web Consortium’s *Provenance Ontology*, PROV-O (Moreau and Groth, 2013). Then, in section 4.2, we describe how the Sail Cargo version of the Provenance Creator App, founded on PROV-O, enables us to establish and explore the live provenance of any *Sail Cargo Product Entity* of interest to the explorer.

4.1 PROV-O: Modelling and structuring provenance

The process of investigating provenance and creating transaction provenance records, with the aid the provenance Creator App and platform, builds on PROV-O wherein provenance is defined as “a record that describes the people, institutions, entities, and activities involved in producing, influencing or delivering a piece of data or a thing, which can be used to form assessments about its quality, reliability or trustworthiness”. PROV-O is a set of recommended standards that define a data model, serializations, and definitions to support the interchange of provenance information on the Web. The starting point of PROV-O is a small set of classes and properties that can be used to create simple initial provenance descriptions.

In PROV-O, provenance is established through representing and exploring all entities, agents and activities that have been influential through involvement and interactions in the historical provenance chain. The starting point of PROV-O is a small set of classes and properties that can be used to create provenance descriptions, thus:

- A *prov: Entity* is a physical, digital, conceptual, or other kind of thing with some fixed aspects; entities may be real or imaginary.
- A *prov: Activity* is something that occurs over a period of time and acts upon or with entities; it may include consuming, processing, transforming, modifying, relocating, using, or generating entities.
- A *prov: Agent* is something that bears some form of responsibility for an activity taking place, for the existence of an entity, or for another agent's activity.

The three primary classes relate to one another and to themselves using the properties shown in the entity-relationship diagram in figure 1, where the particular types of Entities, Agents and Activities represented in the Sail Cargo Alliance Ecosystem are shown in square boxes.

Figure 1 also identifies the metadata type attributes (Subramamiam et al., 2023) instantiated in the interactive views employed in the Sail Cargo Provenance Creator App and platform described in section 5 below.

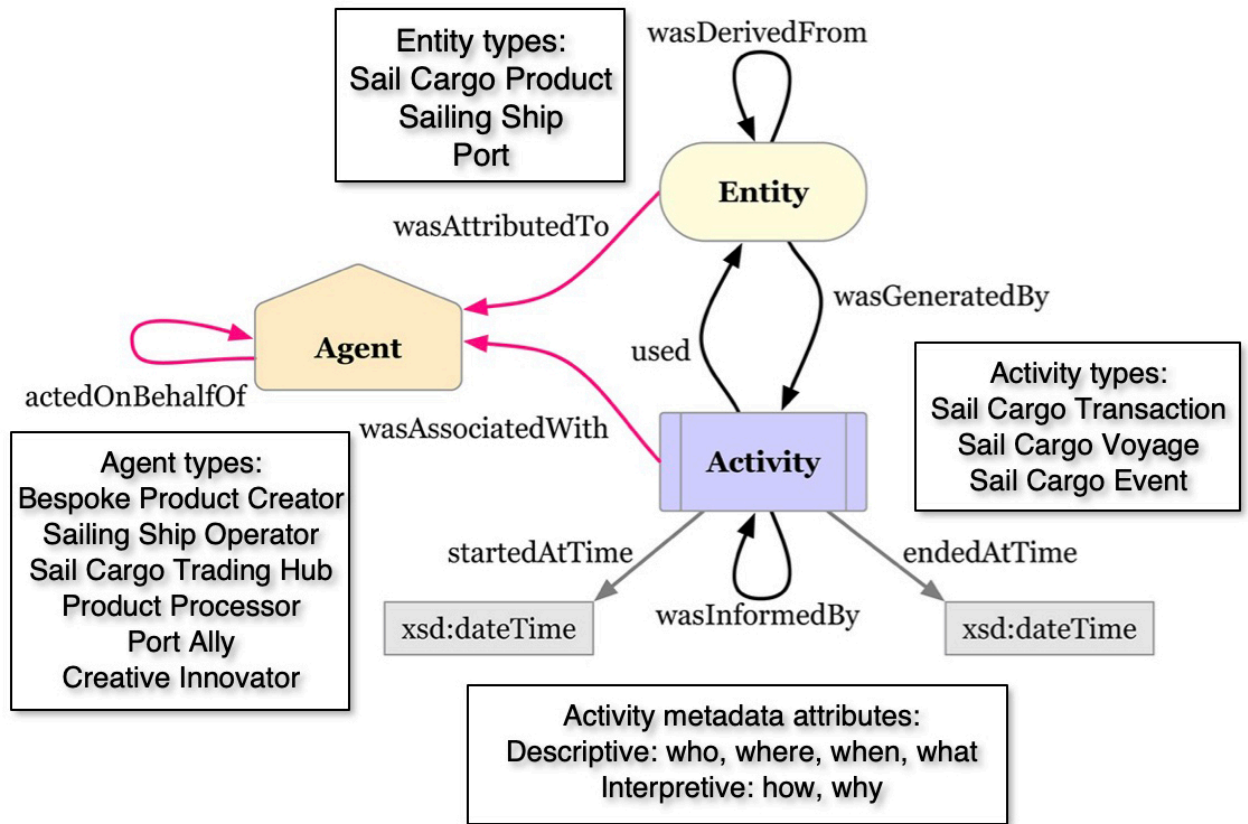


Figure1: PROV-O Relationship Diagram

4.2 Implementation of Provenance Creator App within the Sail Cargo Alliance Ecosystem

Founded on PROV-O, the version of Provenance Creator App implemented within this Sail Cargo Alliance Ecosystem enables us to establish and explore the live provenance of any *Sail Cargo Product Entity* of interest to the explorer, revealing its involvement in particular *Activities (Transactions and Voyages)* by conducting historical provenance searches right back to the first transaction in which the entity was involved, marking that entity's creation, and to the first voyage that established it as a *Sail Cargo Product*. This trace provides the Historical Entity-Provenance Chain for that entity: a time-ordered sequence of the complete set of Activity records (*Transactions and Voyages*) involving the specific entity. In a similar way, we can establish and explore the Historical Provenance Chain for any *Agent* (in the role of a *Product creator; Sailing Ship Operator, Trading Hub, Product Processor or Port Ally*) from the most recent *Activity* in which they played a role, right back to their earliest recorded *Activity* in the Sail Cargo Alliance ecosystem.

4.2.1 The Provenance Tapestry

Entity-provenance and agent-provenance chains interact at every transaction in their establishment. Thus, we can trace and explore, in any way one wishes, provenance threads (paths through the provenance terrain), involving both persons (agents) and objects (entities) of interest to us. Within the *Provenance Tapestry*, these threads are woven together to make the complete provenance net representation (Yang et al., 2018) to form the core structure that

underpins the investigation, validation and establishment of historical provenance within the Provenance Creator App described in section 5, below.

4.2.2 Live Provenance

Fundamentally, historical provenance search is anchored in the past. It enables us to explore agent and entity provenance threads in the provenance tapestry and authenticate the information about “what actually happened” that is found there.

In this way, we improve our appreciation of the provenance of *Agents* and *Entities* that were the focus of our search explorations. However, in this historical context, there is no opportunity for anticipating and improving the actual provenance of these entities and agents, or of the transactions in which they were involved.

Live Provenance is an internet-based search process that reveals the “live” (historical plus present activity) provenance context within and beyond the ecosystem where it addresses participants’ activities. Within the “Sail Cargo Alliance” ecosystem, these involve a bespoke “Sail Cargo” product’s creation and the transactions, events and voyages on ships in which it is involved. This exploration process also serves to detail and enhance the provenance of the agents participating in these activities.

A Live provenance search may be continued through the material referenced in the transaction record at this location in the provenance tapestry. This material includes:

- Stories relating to the particular *Entities* and *Agents* engaged in an *Activity* of interest to the explorer.
- Stories expressed as interpretive material in various kinds of media that address “How” and “Why” for a particular *Activity*.
- Stories relating to the enactment of the *Activity* in the first place and its consequences.

5. Features of the Sail Cargo Provenance Creator App

The *Sail Cargo Provenance Creator App* is designed for use by the members the Sail Cargo Alliance Ecosystem. It is a multisided interactive app: supporting all types of *Agents* participating in the full variety of roles within the Sail Cargo Ecosystem. It enables the live provenance of each Sail Cargo products transacted in the ecosystem to be certified and enhanced, together with that of the creator’s provenance, and that of the sailing ships in which a Sail Cargo product travelled on a voyage.

A major feature of the Provenance Creator App is that it enables its users to use their personal computers to print QR codes on “Live Provenance Certification” labels that can be attached to each Sail Cargo certified product created and transacted within the ecosystem. This means that everyone and anyone, especially potential customers viewing a Sail Cargo product on display at a publicity event (e.g. associated with a Sail Cargo schooner’s arrival port), or offered for sale at Sail Cargo market stall, retail boutique or online shop, is able (and encouraged) to scan these QR-coded labels on the ecosystem’s sail cargo certified products, using their own mobile phones.

When they do this, they are taken to a URL where they can immediately access the web-based “Sail Cargo Provenance Explorer” App’s facilities. This app provides provenance -exploring facilities similar to those incorporated in Provenance Creator, but with restrictions that

protect the integrity of the Ecosystem's database and meet GDPR conditions with regard to accessing from the internet personal information about the agents involved in the ecosystem.

5.1 Interactive views provided by the Sail Cargo Provenance Creator App

The Provenance Creator App comprises eleven interactive views each actualising one of the functionalities that are described above. There are three main categories of views:

- I. *Views focusing on creation of Agent, Entity and Activity records*⁷ (i.e., "Register as an Agent and Create Profile"; "Create a Sail Cargo product's Profile and Live Provenance Certification label"; "Create a Sailing Ship's Profile"; "Record New Voyage"; "Record New Transaction").
- II. *Views focusing on reviewing Agent, Entity and Activity records* (i.e., "View an Agent's Profile"; "View a Sail Cargo product's Profile and Live Provenance Certification label"; "View a Sailing Ship's Profile"; "View a Voyage"; "View a Transaction").
- III. *A View focusing on exploring and assessing the Live Provenance of Activities and their associated Agents and Entities along the relevant threads in the Provenance Tapestry.*

6. Pilot use case: Regeneration of Sail Cargo South East as Sail Cargo Channel

7.



6.1 History of Sail Cargo South East

In 2017, "Sail Cargo Southeast" was created as a UK Division of the Sail Cargo Alliance. Its operating organization was Sailboat Project Brighton, which was formed as a Community Interest Company in 2009. Sail Cargo's South East's home port was Newhaven. The practical activity of Sail Cargo Southeast started in October 2017 when the classic sailing ketch Nordlys⁸ shipped 1000 litres of olive oil, destined for Sail Cargo Southeast, into Newhaven from Porto, Portugal, marking the first sail cargo to arrive at the Sussex coast this century. Retail sales of the olive oil were made directly from the ship to local customers.

Between 2019 and 2021, the Blue Schooner Company's Sail Cargo Schooner De Gallant⁹ crossed the Atlantic from the Caribbean three times each year, visiting after her transatlantic voyage various ports in France and England, including Newhaven. In each port, De Gallant delivered part of its sail cargo to Port Allies including Sail Cargo Southeast.

⁷ See figure 1 in section 4, above for details of the Agent types, Entity types, Activity types and Activity metadata attributes incorporated in these views.

⁸ See <https://fairtransport.eu/en/our-fleet/nordlys/> (accessed 12 December 2022)

⁹ See <https://www.bsc.sc/gallant/> (accessed 12 December 2022)



Schooner De Gallant delivering Sail Cargo in Newhaven port, 2021

In June 2021, Sail Cargo Southeast piloted a new route between Newhaven and Dieppe, employing Sailboat Project's yacht Jalapeño: exchanging Sail Cargo products (food and drink sourced locally in Sussex and Normandy).

Another Sail Cargo visit from Gallant was planned for July 2022 but this did not happen as Sailboat Project was experiencing financial sustainability problems due to failure to find sufficient Customers for its Sail Cargo products, either via delivery events or via its online shop on the Open Food Network. Sail Cargo Southeast commissioned no further Sail Cargo voyages between Newhaven and Dieppe, after the June 2021 pilot voyage, as Sailboat Project Ltd had become inactive and was wound up in October 2023.

6.2 Transformation into Sail Cargo Channel

In October 2023, "Sail Cargo Channel" was created as a new Sail Cargo Alliance Division by former Newhaven Regeneration Group Members Graham Precey and Patrick Humphreys. Their transformation of the Sail Cargo Alliance's division "Sail Cargo Southeast" into "Sail Cargo Channel" linked in bespoke food producers and consumers of Sail Cargo certified goods located in Normandy, France and Sussex, England. Sail Cargo Channel's Port Allies (operating companies) will include Oree Transports and Comptoir des Normandies in France and Sussex Peasant¹⁰ in England. Starting in May 2024, Sail Cargo Channel's constituent ports in England (Newhaven) and France Le Tréport) will be linked by regular Sail Cargo voyages on De Gallant, chartered from Blue Schooner company.

6.3 Immediate Aims of Sail Cargo Channel: supporting its Port Allies in France and England

Sail Cargo Channel's immediate aims are designed to support the long-term sustainability of its Port Allies at the micro level, informed by the results of our assessment of the performance of the existing Sail Cargo divisions 2017-2023, as described in section 3 above, and also from exaptation insources gained through explorations at the meso level concerning the success of Blue Schooner company's and Raybel Charters' innovative sustainability-enabling business models.

¹⁰ See <https://thesussexpeasant.co.uk/about-us/> (accessed 12 December 2023)

The activities planned to realise these aims during 2024 are:

- Develop links to local producers in Sussex and Normandy of bespoke single origin products (cheese, charcuterie, confectionery, etc.) which can be traded as “live provenance certified sail cargo”.
- Develop and operate, in cooperation with Blue Schooner Company, a programme of thrice weekly voyages of Schooner De Gallant between Newhaven (Sussex) and Le Tréport, (Normandy) with delivery of Sail Cargo by low-carbon transport to local communities in Normandy, and Sussex.
- Activate the Sail Cargo Provenance Creator App developed by Patrick Humphreys for use by participants in the local Sail Cargo Channel ecosystem. This will enable Sail Cargo Channel’s Port Allies to place a QR code on each of the “sail traded” products that they offer for retail sale that, when scanned, takes one to the Sail Trading Provenance Explorer website¹¹ where the explorer will be able to view the full activity history of the “Live Provenance certified” bespoke product, now including the sailing ships and voyages involved transporting and distributing this bespoke product. In this way, the live provenance of the products in the ecosystem to be certified, together with that of the individual creators, is publicised and enhanced.
- Initiate a “Creative Innovators Club” to be based in Newhaven and be supported by the Sail Cargo creative multimedia production platform. The young people participating in this club will be “creative innovator” members of Sail Cargo Channel, working collectively to promote social innovation within the Sail Cargo Channel ecosystem. This platform provides creative facilities for making media productions involving story-telling in a synthesis of rich (audio-visual) and restricted (textual) language (Humphreys and Brezillion, 2002) that show-case current expertise, know-how and innovation within the local ecosystem (including sail-cargo carrying voyages) that are then publicised and distributed via channels that are freely accessible worldwide (Lessig, 2008) attracting visitors, collaborators and clients, thus sustaining transaction-based tourism within the local community.

8. **Conclusion:** *Increasing sustainability in an ecosystem promoting the common good*

Our assessment in section 3, above, of the performance of the Sail Cargo Alliance’s UK Divisions on the four sustainable development enabling factors identified by Humphreys and Imas (2022) revealed that the principal reason for the lack of long-term sustainability was inadequate performance on factor 4.

However, Raybel Charters, the operating company for Sail Cargo London, was able to compensate for this threat through adopting an innovative business model in 2020 that enabled the company to “bounce forward” when the other Sail Cargo Division were unable to “bounce back” (Jones et al, 2020).

In sections 4 and 5, we described how the future sustainability of every Sail Cargo division could be enhanced by implementing the *Sail Cargo Provenance Creator App* and, in section 6, we specified the activities involved in forming a “proof-of-value” use case: focusing on activities performed within the newly formed *Sail Cargo Channel* division. The plan for activities to be carried out during 2024 capitalises on the findings indicated above.

Implementing this plan should increase substantially the retail selling price and volume of Sail Cargo bespoke products traded within and beyond Sail Cargo Channel’s local ecosystem thus making “being a Port Ally” financially viable again, even in difficult times. Thus, the results from this use case will be able to guide the future sustainable development of all the Sail Cargo Alliances’ divisions for the common good.

¹¹ See <https://www.london.mulltimedia.org > initiatives>live provenance>>

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He has expertise in innovative and creative decision-making, decision support and transaction provenance platforms powering ecosystems and enhancement of resources for health, culture, development, and networking. He was Director of the EU DG1 ALFA Network "CHICA" (Community Health Information, Communication and Action), linking research projects and training of researchers in UK, Spain, Greece, Brazil, Peru and Cuba. He has directed, for the British Council and the UK Department for International Development, Regional Academic Partnerships on Organizational Development with Novosibirsk State University, and Small Business Development with Riga Business School, Latvia, and Kharkov Women's Centre, Ukraine. He directed the DfID-funded project SaRA (Salud reproductiva para Adolescentes) in Peru for the UK Department for International development and led the EU DG V funded project on evaluation of the World Health Organization's Healthy Cities Project in Europe.

Patrick Humphreys has been involved in initiatives on organisational transformation, business innovation clustering and community development and small business sector development in many countries. He is a Fellow of the Royal Society for Arts, Industry and Commerce. He is a past chair of IFIP's Working Group 8.3 and holds IFIP's Silver Core Award. In 2018 he received the award "Innovative Leader of the Year" at the Entrepreneurs, Creatives and Innovators Festival, Beijing.

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