










Authenticate

# Future Direction of Supply Chain Risk Management

White Paper



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# 1. Introduction from Nic Sheen, Chief Technical Officer



I have been at Authenticate just under a year now and who could have predicted what a year it would be. The uncertainty of Brexit, followed by the global crisis of COVID-19, but I'm proud to say my technology team have taken it in their stride and continued to deliver enhancements to our platform, helping customers and suppliers collaborate in these challenging times.

After starting my career as a researcher in physics and artificial intelligence, I've spent the last 20 years working in Technology development & transformation in Healthcare, Financial services and FMCG. These sectors all shared common themes, multi-disciplinary teams, complex supply chains and large volumes of data – and the constant question – how can we better adopt technology to streamline our processes, serve customers and drive innovation.

This so called “digital transformation” has become a passion of mine, comparing how different industries adopt technology and how culture plays a fundamental role in that process. The barriers are usually, a complex patchwork of existing solutions, spanning different departments and companies, an acceptance of the status quo and capex processes that often stifle innovation.

In the last 12 months, I have learnt that the Food sector faces the same challenges and I am enjoying learning about a new domain – and grateful to all our customers who have patiently answered my never ending questions about the details of raw material specifications, audit processes, HACCP's, VACCPs, GFSI and a whole array of other TLAs.

In this paper, I have combined my previous experience of digital transformation with my initial thoughts on the current state of Food compliance.

Twenty years ago, the first online banking solutions were created, to open a new account I had to go into branch and then wait 5 days for my cheque book and plastic card to arrive – today, I can open a current account and start paying from it in 10 minutes on my mobile phone, not only that I can see all my accounts, from different banks in one app!



The Food Industry in many ways is at the start of this process, but the pace of technology change is much greater today and we should challenge ourselves to do in 5 years what financial services did in 20.

A handwritten signature in black ink, appearing to read 'N. Sheen'.

Nick Sheen, Chief Technical Officer



# 2. The time for modernisation of supply chain compliance management?



As we all adjust to whatever represents the new normal, Food safety and supply chain compliance is faced with its own unique challenges.

In general, supplier due diligence processes and the management of supplier risk in the food industry have remained largely unchanged to those of the pre-digital era. Standards have improved, audits have proliferated and there are many more certification schemes to ensure the food we source is safe and sustainable. However, the way the industry accesses & shares information, analyses data and interprets risk has fallen behind many other sectors.

The need for the industry to share data and intelligence has been highlighted on numerous occasions, not least by industry bodies and by Government. The report of the 2017 Parliamentary Select Committee investigation into the poultry industry makes reference to the “patchwork nature of the food accreditation system” and there being “no systematic process for bringing together the various audits and assessments conducted by different accreditation and regulatory bodies; and there is no single overarching view of standards”

COVID-19 has brought into sharp focus, once again, the dependency in the industry on physical visits to carry out audit work and an absence of data collaboration between industry parties. As a result, the food assurance system is in danger of being severely compromised.

## An opportunity to rethink supply chain management

The current challenges represent an opportunity for us to rethink the approach to supplier compliance and develop systems and processes that not only handle the current crisis but are more efficient and effective in the long term.

“Supplier due diligence processes and the management of supplier risk have remained largely unchanged since the pre-digital era”

We should focus our efforts to build collaborative digital systems on four areas:



Transparency



Certification



Audit



Risk Assessment

Addressing these core components of the food compliance process will provide a set of capabilities that can streamline supply chain compliance to allow better focus on the resilience and sustainability of supply chains, not just their basic management.

In this White Paper, I look at each of these and offer some answers to how a more technology driven approach can provide better insight, reduce the burden on suppliers and create economies of cost and resource.





### 3. Transparency – deep supply chain transparency, the new normal



In the print industry, where I previously worked thirty years ago, organisations would deal direct with the printer, usually with companies they knew well. Consequently, prices were high and customer service was poor through lack of competition. Print managers – much like agents and brokers in the food industry – invented themselves to solve this problem, providing front-end customer service and buying from a network of suppliers.

In the early days this delivered significant savings for customers but as Print Managers margins were squeezed, pricing became opaque and customers would end up paying significant premiums for any product that was not on a pre-agreed price matrix.

As this situation became unsustainable for both customers and print managers, the model changed to one based on transparency. Print managers would expose their supply chain and purchase from the optimal source for each job – achieving the lowest price for the customer but then receiving a fixed service fee or agreed mark-up to ensure the relationship was sustainable. In short, whilst the initial transition was painful, transparency led to stronger supply chains and ultimately benefitted all parties.

Food supply chains are now global, complex and of significant scale. Most food companies understand the need for a comprehensive understanding of the risks, technical expertise, and sustainability impacts of their supply chains and acknowledge that a reliance on the traditional one-up, one-down supplier transparency is no longer fit for purpose.

Many companies have found challenges in implementing processes which provide them with the full transparency required, citing the sheer scale of the food industry (more than 500,000 primary producers supply the UK market alone), a hesitancy on the part of companies to divulge what is considered privileged or market sensitive information and the absence of secure, enabling technology as barriers to change.

“Most food companies acknowledge that a reliance on the traditional one-up, one-down supplier transparency is no longer fit for purpose”





### 3. Transparency – deep supply chain transparency, the new normal



However, with the legislative requirements of Modern Slavery, protection of the environment, climate change and sustainability now driving the agendas of many large organisations around the world, things are rapidly moving in a new direction.

Technology is helping drive this change, in the same way that LinkedIn enables us to create our own profile to be shared with others and gives control of how we are connected (1st, 2nd, 3rd degree), the technology is now widely available to enable food businesses to securely map supply chains for products back to the source of raw materials, whilst sharing valuable technical data with trusted partners in the same supply chain.

Authenticate, amongst others, has been providing collaborative Cloud-based mapping technology for many years and has developed a wide range of tools to streamline the process. Today, many of our clients have built product level supplier visibility 5 or 6 levels deep, enabling them to demonstrate provenance, confirm true country of origin, and automatically validate the certification status of all parties in the chain back to source of raw material.

Confidentiality and trust are key components in the drive for transparency. Transparency does not undermine commercial relationships; if anything, it can strengthen the ties with direct suppliers, with many customers acknowledging that transparency of product supply chains offers market differentiation, leading to more secure relationships and increased sales. Food supply chains rely on hard-won, deep relationships with all parties in the chain adding unique value.

The key is for businesses to use transparency programmes as a positive way of engendering deeper customer trust and a way of establishing better and longer relationships. In many cases, procurement process will give preference to those suppliers which are prepared to assist them in their sustainability and ESG goals.

As more food businesses base their approach to supplier risk management on transparency and the sharing of core data, the more normal it is becoming to provide true farm to fork transparency. This is a tide which is not going out and it is hard to imagine we are ever going back to a less transparent world, where knowledge of just Tier 1 suppliers is all that is required.

“Many clients have built supplier product level visibility 5 or 6 levels deep, enabling them to demonstrate provenance, confirm true country of origin, and automatically validate the certification status of all parties in the chain back to source of raw material.”





## 4. Certification – Collaboration between Schemes



The global approach to food certification could, at best, be described as chaotic, at worst, dysfunctional. Myriads of Schemes, generally operating in silos, have evolved to address niche issues, and many duplicate each other's goals. Whilst some bodies, such as GFSI, have attempted to create an equivalence between Schemes, by overlaying a certification process onto the certification bodies themselves, this approach is not yet universal. Furthermore, even if an agreed level of equivalence at an industry level can be agreed between schemes, the data is generally difficult to obtain and validate. A few Schemes can share data through APIs, and some websites provide open access to data, but most have nothing.

These problems are not dissimilar to those faced by other industries in the past. Take the Healthcare sector, where multiple systems, different formats of electronic patient record and security concerns beset the industry for many years.

Today, at least at a national level, there a good level of data interoperability as a result of government policy and cross-industry efforts to create electronic patient records. In a similar way, the car & household insurance industry has worked collaboratively towards collective data sharing, helping cut fraud and unwarranted claims.

Evolving towards a global approach to digital certification will require a shift in thinking, but we should work along the following lines:

1. Encourage all Schemes to expose certification data electronically, in a standard format with a standard API. Schemes which are unable or unwilling to share data will lose relevance and support from certificate holders which will lead to consolidation in the industry, which might be welcomed. As we exit the current crisis, it is hard to imagine that all schemes will survive, and it is those which adopt a more open approach to data and data equivalence which will survive.

2. Develop an agreed catalogue of standards with applicability and equivalence criteria. For example, Red Tractor Pork Certification in England is equivalent to Quality Meats Scotland Pork Certification. The work being carried out by The Sustainable Agriculture Initiative (SAI) on equivalence is the way to go.

In the last month, we have spoken to several Scheme owners looking to develop their own APIs. Each is working in isolation with a 12-18-month timeline. Creating a standard will reduce the costs for each Scheme and reference implementations that can be built-upon which will speed up the process significantly.





## 5. Audits – Close to breaking point



Physical audits play a vital part in the risk assessment process and will remain an essential part of the technical compliance landscape. However, it is generally accepted the current system is close to breaking point, with far too many audits being carried out, creating significant disruption and cost to the supply chain. The veracity of audit results in some parts of the world is open to question and the ever-increasing pressure on pricing margins only lends itself to the opportunity for erosion of quality. As the scope of technical due diligence ever expands to include CSR and ESG measures, the inevitable conclusion is that the audit burden on the industry could increase further still. Yet, there are solutions. Much of the data collected by auditors is standard, repeated, factual, and verifiable using technology. To move to a more sustainable situation, the use of technology and remotely deployed evidence can play a significant role. To move forwards will require addressing a number of issues:

**1. Sharing of base data:** Part of our role at Authenticate is to assist clients with the creation of assessment templates prior to their future completion on site visits. As a result, we are in the privileged position of witnessing the type of data being requested of suppliers across many different types of audit. Everyone is aware of the complaint from suppliers of “audit fatigue” There is massive repetition in the type of data requested, much of which should be shared and could be available through widely used data sharing and api implementation.

“Much of the data collected by auditors is standard, repeated, factual, and verifiable using technology. To move to a more sustainable situation, the use of technology and remotely deployed evidence can play a significant role”

I have no doubt, in time, this approach will lead to higher quality data as assessment can be carried out more frequently at lower cost, using electronic links directly to supplier systems for evidence and eliminate any human bias.

**2. Clear guidelines** are required on what constitutes acceptable remote evidence – documentation for a process isn't evidence that a process is being followed, but operational data from machinery indicating actual measurements at control points and a video of the production line might be. The current situation is a perfect opportunity to create these guidelines as we have no choice at present but to remotely audit our suppliers. The exponential rise in the use of video conferencing, live chat and remote meetings will likely change the way we work forever, which can surely be used as the catalyst for more innovative and accurate ways of verifying information.

**3. Technological capability:** A common discussion point, particularly for farm audits, is that many are in remote locations, with limited access to technology and, even if they can access it, their level of sophistication may be low. Whilst the systems we develop must take this into account, the technical barriers are all overcome-able.

I have often faced lack of technology capability cited as a barrier to change. In the late '90s I was involved in a project to create educational content for medical staff in Africa on key diseases such as malaria, tuberculosis and leprosy – it was a challenge, but we successfully created a delivery system that was easily accessible using very low levels of technology and minimal computer skills. Vodafone in Africa recognised that most people have little more than a basic smartphone and no access to banking facilities and developed its M-Pesa payment system that is now used to provide the basics of a current account and is used by over 37 million people.

As all the technology already exists today, we need to move to a greater level of digitisation for the majority of audit processes – the work we need to focus on is the standards for the information that is captured to ensure remote audits provide the same degree of verification as a physical audit.

“The technology exists today to move to a greater level of digitisation for the majority of audit processes”







## 6. Risk Assessment – A move towards automation and predictive analytics



Risk management often seems to be an industry based on excel spreadsheets, attempting to combine data from multiple sources where there is no-systems integration.

This approach has four major drawbacks:

- **Firstly**, it is time-consuming and labour intensive to produce and maintain, meaning the focus tends to be on just producing the analysis, not what the analysis is telling you.
- **Secondly**, it is difficult to share collaboratively
- **Thirdly**, it is out of date as soon as you press save
- **Finally**, it rarely links to specific, strategic actions in order to manage a reduction in risk over time.

I am sure this isn't true for all of you and some will have active risk management that informs strategy and forms a regular part of your board meetings, sadly, my experience is that this is the minority, rather than the majority.



I believe there are four key dimensions to a risk framework in the food sector:

- 1. Geographic data** informs you about the baseline a supplier is working in and so what risk factors are likely to be most relevant.
- 2. Supplier data** – such as certifications, memberships, audit and assessment performance, non-conformance frequency, severity, and speed of resolution tell you all you need to know
- 3. Product data** – informs the risk of that material, based on the specification
- 4. Event data** – Tell you about material events – be they geographical (e.g. weather events), supplier based (financial issues, negative press) or product based (food recalls, animal / crop diseases)

Combining these together gives you a clear view of risk by product & supplier / supply chain.

This data should be available instantly at your fingertips, enabling you to then identify your strategic risk management aims – e.g. diversify supply in sole supply categories, reduce supply from countries with poor ethical / sustainability scores, unless the supplier can demonstrate standards in-line with your target market, increase the level of certification in your supplier base to demonstrate enhanced animal welfare.

Once you have identified the key goals, your risk data should automatically show how you are performing against them.

Your compliance management systems should tell you instantly what your current risk is and how you are progressing compared to your strategic objectives.

In summary, assess the risk of using excel to manage risk, mark it as HIGH, then, automate it out and spend your time working on the insight from your data. As a friend of mine says, spend your time working on your business, not in it and you will have a better business.



# 7. Conclusions



Dealing with COVID-19 is a great challenge for the world and for each of us as individuals. Using this time to address the challenges placed on us as a result of travel restrictions and working from home will enable us all to build a sustainable framework for digital compliance in the future.

Some of this work requires cross-industry collaboration, however much can be done at an organisational level and we recommend the following

1. Find a digital platform and technology provide which can enable you to connect with your suppliers electronically and can help build transparency in your supply chain – Don't rely on email and excel, they cannot be used collaboratively and are only as good as the data you input in to them.
2. Work with your technology partner, certification bodies and auditors to establish guidelines for remote auditing and embed the processes for this whilst you have the driving need for change. Make this the baseline going forward with physical audits the exception.
3. Automate reporting and risk assessments, so you can spend time solving business issues, not collating data.

In many ways our industry is at the foot of the digitisation mountain but if there is anything positive to take from the current crisis it is that it can give us the momentum to advance in months what would otherwise take years.

“Systems have sufficient information to become predictive, highlighting trends or anomalies to be investigated”

