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Q1 has flown by, I mean it has flown by at some pace! We haven't stopped since late 2018; ever since our conference, we have been supporting many new and existing clients. Myself, I have been involved in numerous training and consulting sessions, all of which I have deeply enjoyed so a special shout out to those of you who have entertained and humoured me during our sessions.

Claire and the team have been working behind the scenes organising this years TDW-Live conference, already bookings coming in and suggestions from you on what you would like to see and learn more about, so thank you for your suggestions.

Having been on the road a great deal this quarter, I have tried my best to keep on top of podcasts, blogs, YouTube videos etc. Through your suggestions we have deepened the content we are producing, some of you have asked for some more tips and tricks, so we have started developing this level of material, I have to say it is great fun doing it, we have surprised ourselves as to how much content we have to create for you, our roadmap has at least **three years** of content!

So what did we achieve in Q1?

Apart from the training and consulting, we have had numerous requests for support in terms of identifying software solutions, from Adobe FrameMaker templates through to S1000D IPD support as well as multiple requests from our network on the best CSDB solutions (and costs) available on the market.

During Q1 I wrote a blog on the role of the S1000D Common Source Database (CSDB), and this sparked several emails into me, especially from those trying to manage an S1000D project without one, all concurring with me that the CSDB is a valuable time-saver.

The **TDW-Live conference** planning is well underway, and I want to do something different this year, we are going to take a paper-based technical manual and work it through a conversion process. We will talk about the why and how of turning the content into structure like eXtensible Mark-up Language (XML) and what this gives us. We will take the document on a journey and show you what we gain, how much it took in terms of effort and energy and best of all some of the vendors will show you how they can use the same content and apply some of their magic to it.



MICHAEL INGLEDEW



My details

XML & S1000D Training

At the end of 2018 we produced version one of this neutral and independent course and I have really enjoyed delivering it. Iterations and updated versions of this course have now been delivered in the UK, Germany, France, Czech Republic and during Q2 will see us again road-tripping around Europe delivering customised versions of this popular course.

The MyTDW App just gets better

We issued the first significant change to the TDW mobile app during Q1, a slightly different layout and colour scheme to meet with our new logo design. Thank you to those of you who have taken the time to send in your positivity around the new look and feel of the TDW logo. We are planning lots of new features for the app so please do make sure you download it and of course send in your comments to us for suggested improvements.

That leaves me to say; please enjoy this issue; I hope you enjoy it as much as we enjoyed putting it together.

All the very best and see you on the circuit from me and the team here at TDW.

Mike

At TDW we have not stopped since our last TDW-Live event - having been involved in numerous training and consultancy sessions.

Background image taken from a recent trip to Bath, UK, where we delivered our Understanding XML & S1000D for Engineers

01

TDW Delivers XML & S1000D for Engineers in Bath, UK

07

TDW has embarked on a study on the use of S1000D in aerospace and defence - is it worth it?

02

TDW heads to Prague for some consultancy, S1000D training as well as some nice beer and food.

08

TDW interviewed by market research company looking for information on technical publications in aerospace

03

TDW delivers S1000D training in Toulouse, France, for a new European project

09

In Q1 TDW released many new videos, tutorials, podcasts and more for our network

04

The all new TDW app was released, new colours, new features and more planned for 2019

10

TDW contracted to deliver S1000D and Technical Authoring training in central Europe - training will be delivered during Q2

05

Contract signed for TDW-Live 2019 UK - Super Early birds had many new sign-ups - www.tdw-live.com

06

TDW supports client in identifying a new CSDB solution to replace existing poor performing tools

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Client wishing to use Adobe Framemaker for S1000D contacts TDW for help in using open S1000D templates

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New German S1000D editing and CSDB requirement - TDW asked to supply a list of possible vendors

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to the magazine for the aerospace, defence and space Tech Data professional

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The BIG Question - Open-Source software for producing S1000D - is there any?

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Simplified Technical English - Structure within Structure - a follow up to the recent TDW webinar

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Support Engineering - Fettered By Commercial Practice?

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ABBYY FineReader

Tools for Tech Comm - we look at some of the tools we use at Tech Data World when supporting clients - kicking off with Abbyy FineReader



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The results of the S3000L survey are in



Download the Tech Data World mobile app for more content - more details inside.

What else is inside? **TECH DATA**

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\$1000D - What were/are your objections?

AT TDW we are not afraid of the tough questions and one of the toughest is around the motivations both for and against the use of S1000D, does it actually deliver any benefit and if so where is the benefit delivered, how and can it be measured?

We all know that it takes a momentous mind-shift to move towards an S1000D based technical publications strategy leaving 'traditional' publications mindsets behind. Not only is there a shift in thought processes, there is significant investment in infrastructure, tools, skills and most importantly time.

Anyone outside of the technical publications domain and often responsible for investment budgets will ask the very basic of questions often starting with the 'why' of S1000D, what do we get and why does it cost so much?

This is where the problem starts, we are all often left making up responses that we feel are right. We all produce technical publications for the same reason, it is just our methods of production usually differ for various reasons and motivations.

This is why we at TDW have embarked on a study around the use and adoption of S1000D - we are specifically interested in the objections to adoption as well as the motivations for those that have embarked on an S1000D strategy.

We are asking questions like "Why are you using S1000D?". Knowing the responses will vary from 'because our customer wants it' right up to 'we think it will solve our publications problems'.

We have designed the survey to take you less than five minutes and we have already had a number of significantly interesting responses from major suppliers and manufacturers in the S1000D user community.

A STUDY INTO THE ADOPTION OF S1000D - WE NEED YOUR OPINION - IT COULD HELP SHAPE THE FUTURE OF TECH PUBS IN OUR DOMAIN

Confidentiality of Response

We accept that the responses are highly sensitive and already we have had some 'frustrated' and angry responses - **your response is 100% confidential**, we will not share or publish your company, name or any information that could identify you from your response. Your response will be used as part of a collective to illustrate motivational trends for and against the use of S1000D.

What will we do with the statistics captured?

Our intention is to produce a White Paper and publish it in a future edition of this TDW Magazine.

How to take part in this survey:

Download the TDW app and follow the instructions to submit your response

Scan the QR code below and take part.



Scan me

THE BIG QUESTION

AT TDW WE ARE ASKED QUESTIONS ALL OF THE TIME, SOME INSPIRE US TO CREATE TUTORIALS SOME MAKE US SMILE - IN THE BIG QUESTION WE TAKE A CLOSER LOOK AT YOUR QUESTIONS AND GIVE YOU SOME MORE FOOD FOR THOUGHT.

OPEN-SOURCE SOFTWARE (OSS) IS A TYPE OF COMPUTER SOFTWARE IN WHICH SOURCE CODE IS RELEASED UNDER A LICENSE IN WHICH THE COPYRIGHT HOLDER GRANTS USERS THE RIGHTS TO STUDY, CHANGE, AND DISTRIBUTE THE SOFTWARE TO ANYONE AND FOR ANY PURPOSE.
- OPEN-SOURCE SOFTWARE MAY BE DEVELOPED IN A COLLABORATIVE PUBLIC MANNER. -
WIKIPEDIA

I always laugh when I am asked this question - not because it is a silly or daft question, it is far from either of these, but I am reminded of the time when I shared a beer or two with some young and enthusiastic German software developers who were planning on S1000D software world domination.

Over a few of the cold ones we were discussing the complexity of S1000D and why software is so expensive to even the smallest of S1000D implementations.

They both proudly looked at me and said that they were developing the first S1000D free and Open-Source solution that they were going to release to the market. At the time I recall saying that there were crazy as I believed that they were underestimating the level of development effort required. I went on to explain that even the smallest of tools have had decades of man-years of development invested in them. I know, I have had to manage S1000D software development teams and budgets.

They smiled and confidently said 'watch this space'.

At the time of writing this article, this discussion was almost 20-years-ago and I

am still waiting for the first 'free' S1000D solution, I am still watching this space. So to the question, is there any Open-Source software out there? In short the answer is simply no. There are freely available tools that you could bend to get you some way towards developing S1000D content, but the moment you try to manage, exchange, publish or do anything useful with your S1000D content you will quickly fall foul of the trying to cut corners game.

The closest you will get to 'free' S1000D support is within Adobes S1000D starter-kit installed with FrameMaker and to be honest this is nothing more than a basic training aid - it will not help you be successful with S1000D beyond learning the type of structures you can create in S1000D. In fact I recently tried to create some valid S1000D structures with these templates and quickly became frustrated and reverted back to a fully functional COTS solution for S1000D.

The reasoning behind the lack of Open-Source tools available (specifically for S1000D) is simply down to two things, market size and specification complexity. The level of effort to develop something that would be freely available delivers very little in terms of benefit to the market, outside of saving a few quid.

In the defence sector using Open-Source is often banned or frowned upon, it simply will

Is THERE ANY S1000D OPEN-SOURCE SOFTWARE AVAILABLE?

Most defence organisations will not entertain Open-Source options

MICHAEL INGLEDEW
ANSWERS YOUR QUESTIONS OPENLY AND HONESTLY

I just don't think that there is enough ROI for an Open-Source model given the current market size

not be used by many. Recently I was with a defence contractor and we were discussing some software that I know is about to be retired and will shortly become hard to support via normal channels. They told me that their very strict IT policies would mean the moment it is no longer officially supported, it would need to be removed from all machines that were using it. These guys will not entertain any Open-Source based solutions.

Is there a gap for an Open-Source solution?

Honestly - I fear that there really is not too much room for something like an Open-Source Common Source Database - if one of the heavy hitting vendors out there decided to make a 'free' version of their software - I can see what this could do in terms of freshening up the market.

But always remember free is never always really free.

A big motivator behind Open-Source is to

TECH DATA

create and develop a market-place around the Open-Source solution. A really good example of this is something like Wordpress - the freely available website tool that most modern websites are now based upon. You can freely download, install, copy, manipulate, change the source code as much as you like. However, the moment you try to do anything relatively complex or sophisticated you will often require a plug-in or extension to Wordpress to make it do what you need it to do and yes, often, these cost some of your hard earned shekles and you will need to purchase the extensions.

My belief is that right now the \$1000D market size would not sustain this kind of model, a free CSDB or Viewer that could be extended at cost to meet specific requirements - I do not see where the Return on Investment would be for any of the \$1000D solution providers out there.

Your question was a great one and although I smiled when you asked - it is a question that comes up frequently, so thank you!

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ASD SIMPLIFIED TECHNICAL ENGLISH ASD-STE100 (STE): STRUCTURE WITHIN STRUCTURE

Last month we broadcast the webinar: **Simplified Technical English – Let Us Show You How** (see the recorded version on the TDW app or website if you missed it). In the webinar, I took a warning and part of a procedure from the 1940 Hurricane Manual (Sarkar, 2013) and showed how to re-write them in STE. We also introduced the S1000D and STE joint course that we are now offering. I thought that for this article, it would be useful to show how STE provides structure within each module in structured content using a piece of descriptive text from the same Hurricane Manual. I propose to show how the rules for writing descriptive text drive structure in STE.

Descriptive text in STE *“gives information, not instructions.”*

Descriptive writing can be:

- *A description of an item, a product, a system, or a component, its function, how it is made and how it operates*
- *A text that gives general information*
- *A note in a procedure” (1-6-1 STE, 2017)*

In STE, it is harder to write descriptive text than procedural text because the author must provide the structure for descriptive text with well-organised paragraphs and sentences. The task that the procedure describes gives the author structure, so it is easier to write the steps in STE. As the specification says:

Ciaran Dodd



“In procedures, work steps have numbers and letters to show their sequence. In descriptive writing paragraphs give related information together and organize the text into a logical sequence.” (1-6-5 STE, 2017)

This short example of descriptive text describes the cockpit of the Hurricane (53 Sarkar, 2013):

“The cockpit is heated indirectly from the radiator circuit and is totally enclosed under a transparent hood which slides toward the rear for entry and exit purposes; the seat is adjustable vertically at any time. [35 words] An emergency exit panel is provided in the starboard side of the decking and a break-out panel is incorporated in the sliding hood at its port front bottom corner to provide a clear view when landing should the windscreen be covered with ice.[43 words] Flying controls are of the conventional stick type with a rudder bar which is adjustable horizontally for leg reach; the cockpit is fitted with a normal set of instruments as well as those necessary for instrument flying.[37 words]”

The rules for descriptive writing are in section 6 of the writing rules in the STE specification. One way that the rules add structure is to give authors a maximum sentence length of 25 words (6.3). I have added the number of words after each of the sentences in our examples, all of which exceed 25 words.

Also, two of the sentences have semi-colons, which are not permitted in STE (8.1).

Under rule 6.1 (give information gradually), the STE specification says:

"In a descriptive text, give information gradually and make sure that each sentence contains only one topic." (1-6-1 STE, 2017)

I would suggest that the sentences in the original text, especially those with semi-colons, have more than one topic.

Another issue is that STE requires authors to:

"Use the active voice as much as possible in descriptive writing." (3.6, 1-3-1 STE, 2017)

[Active voice is: "A does B". Passive voice is: "B was done by A".]

In the original text "is heated" and "is provided" are passive constructions which are not permitted and need changing.

The other rules that drive structure in descriptive writing are:

"Rule 6.2 Use key words and phrases to organize your text logically."

Rule 6.4 Use paragraphs to show related information."

Rule 6.5 Make sure that each

paragraph has only one topic." (1-6-1 STE, 2017)

I refer you to the detailed explanations under these rules because the STE specification has a worked example of text about an Instrument Landing System that shows how to properly structure text into organised sentences and paragraphs. (1-6-1 to 1-6-6 STE, 2017) It is the best example of how to structure text that I have seen.

Finally, the existing text has several words that are not permitted in STE, such as "heated", "indirectly", "totally", "enclosed", "slides", "provided" and "conventional". I also think that there is additional text which does not add clear meaning such as: "at any time".

Here is my suggested version in STE. I have reorganised the content where I think that it makes the description clearer and tried to deal with the issues that I have listed.

REFERENCES:

STE, 2017 ASD Simplified Technical English ASD-STE100 Issue 7 2017 available to request at <http://www.asd-ste100.org/request.html>

Sarkar, D. (ed) (2013) Hurricane Manual 1940. Amberley Publishing. Stroud, Gloucestershire.



The cockpit has a transparent hood that moves rearward to give the pilot access to the cockpit. There is an emergency exit panel in the right side of the decking. There is a break-out panel in the left side of the transparent hood at the front bottom corner. The break-out panel gives a clear view for landing when the windscreen has a cover of ice.

In the cockpit, the seat is adjustable vertically. The cockpit has standard stick flying controls with a rudder bar. The rudder bar is adjustable horizontally so that it is correct for the length of the pilot's legs. The cockpit also has the standard set of instruments and the instruments necessary for instrument-only flight.

The radiator circuit gives heat to the cockpit.

What do you think?

Which version do you prefer?

If you have any thoughts or indeed a better version in STE, please contact us.



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Ernest Starling

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A2Z OF S1000D® A FUN LOOK AT THE S1000D® SPECIFICATION AND SOME THINGS YOU SHOULD CONSIDER



A2Z Series

A FUN JOURNEY THROUGH THE ALPHABET LOOKING AT AN S1000D JOURNEY.

As we skip through our journey of the A2Zs of S1000D - this quarter we released a number of new videos looking at this obviously polarising topic of S1000D - it seems I never really manage to speak to anyone who is in the 'middle' on this subject - it really does polarise people. Those that absolutely hate S1000D right up to those who think everything in the world should be written to the S1000D specification.

So let's continue our journey through the alphabet starting our next leg at 'O' and pulling into the U station.

WHAT WOULD MAKE YOUR A2Z?

I am interested in hearing what would make **your** list of A2Z of S1000D - send your comments to: michael@s1000dworld.com and

see if yours makes the next list!

I am really enjoying doing this series of A2Z and it seems that you are also enjoying watching it! I do have ideas for other A2Z series, some around S1000D and some around 'other topics', but of course Tech Pubs related.

Kick back, grab a coffee or your favourite tippie and join me as we continue our journey through A2Z of S1000D.



"THANK YOU FOR DELIVERING THIS SERIES - SOME INTERESTING PERSPECTIVES"

"YOU JUST POSSIBLY SAVED US A WHOLE LOAD OF PAIN! THANK YOU SO MUCH"

"I LOVE WHAT YOU ARE DOING WITH TDW AND THE A2Z SERIES IS AWESOME!"

"I AM MAKING OUR MANAGEMENT WATCH YOUR A2Z ON S1000D - IT IS REALLY HELPING THEM UNDERSTAND!"



WHAT HAVE YOU MISSED?

This quarter we have released seven videos to kick off this series - but what did we cover? Here are some highlights, watch the full videos for each letter. Also available in the **Tech Data World App**

A2Z - O

OPINION | OPTIONS | OUTPUTS

A2Z - P

PPPPPP - IT'S ALL IN THE PLANNING

A2Z - Q

QUESTIONS | QUALIFY

A2Z - R

REALITY | ROI | ROAD-MAP

A2Z - S

SOFTWARE | SUPPLY CHAIN

A2Z - T

TYPES | TOOLS | TECH

A2Z - U

USERS | UPGRADING



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ASD/AIA S3000L

International procedure specification for Logistic Support Analysis (LSA)

81%

Had heard of ASD/AIA S3000L at some level.

9%

Stated that they had no intention of using S3000L.

65%

Will ONLY use S3000L if their client insists on its use whilst 10% have no idea if they will use it at all.

70%

Will be looking for training resources around S3000L, of the 70% half suggested that they will aim to self-teach.



Would you or do you plan to use ASD/AIA S3000L?

The results of the 12-month survey conducted by TDW

What is S3000L?

S3000L short (directly from www.s3000l.org)

S3000L describes the LSA process and the corresponding analysis activities to be considered for the definition and ongoing maintenance of a suitable support environment to operate technical complex and long-living products. Complementary to the procedural chapters of the specification, the corresponding data model is described by a detailed UML model based on ISO Standard 10303, AP239, PLCS. A schema has been derived from the UML model to enable the exchange of data.

Purpose of performing LSA

The specification S3000L is designed to cover the activities and requirements for the establishment of the LSA process

- to create an Integrated Product Support solution;
- to identify required resources to support a system;
- to reduce costs;
- to increase availability;
- to exchange information between different parties;
- and to store data and results for future reference;
- in a structured and methodological way.

The official ASD/AIA S3000L website is located at www.s3000l.org - a word of caution if you are using high security settings in a modern browser you are likely to receive security warnings as the website is not secured with an SSL certificate.

Support Engineering Fettered by Commercial Practice?

Defence procurement requires the implementation of very complex processes in order to procure some very complex systems.

Those complex systems include complex support solutions, those complex processes include Support Engineering processes.

So I think we have established that things are pretty complex...

Systems Engineering was developed to manage such complexity, hence government procurement agencies and contractors, large and small, apply Systems Engineering principles. They make use of the associated life cycle phases in order to impose some structure on their development, manufacturing, operation and support processes.

That is the theory anyway...

Why "that is the theory anyway", why the cynicism? Because there are problems when we try to implement this laudable approach.

Peter Stuttard is the Chief Executive of Aspire, a Support Engineering specialist of over 40 years' experience. An ex REME aviation engineer, he has worked at senior level on a wide range of national and international programmes, from armoured fighting vehicles, submarines and combat aircraft, to tug-boats and communications systems.



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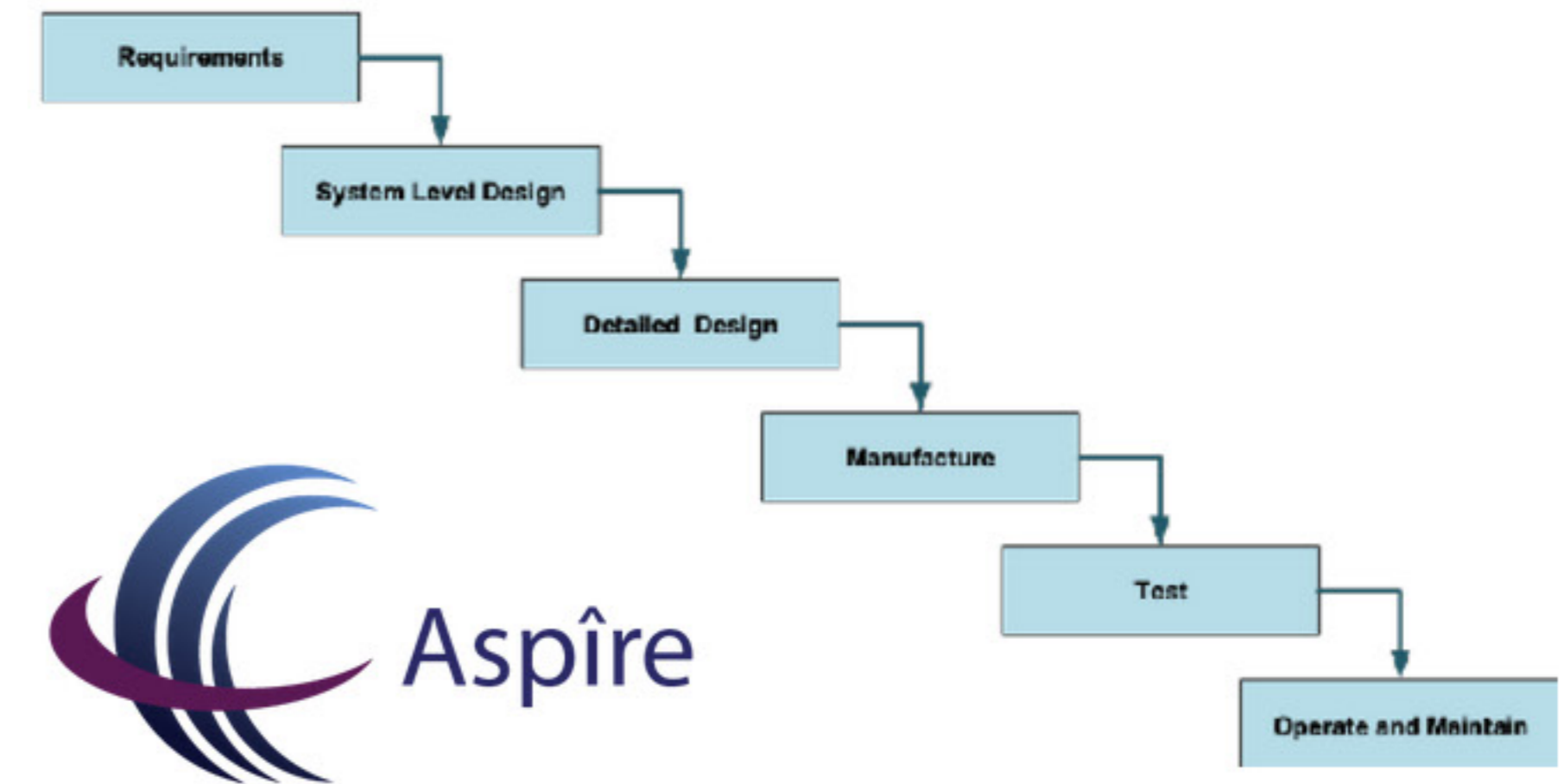


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THE SYSTEMS ENGINEERING PROCESS – A SIMPLE PERSPECTIVE

Systems Engineering is a complex subject, there are literally hundreds of books addressing the topic and a significant number of standards and guides, but the fundamental concept is quite simple.

To understand this, it is perhaps easier to start by defining what it is not. It is not a "Waterfall" (or "Cascade") development process. There are a lot of variations on the Waterfall development process model, but the figure below is typical. The key issue is that the requirements generation process is completed before the design process commences.



It doesn't take much imagination to relate this to the UK MoD's CADMID cycle, these boxes could relate to the Concept, Assessment, Demonstration, Manufacture, In-service and Disposal phases (well the CADMI phases anyway).

But this is not a Systems Engineering approach, whilst it is self-evident that the design is dependent on the requirements, it is less obvious that, for complex systems, the requirements are in their turn dependent on the presence of an evolving design.

That is, the design **has to** evolve in parallel with the requirements generation process, each informs the other.

This issue is addressed in a little more detail in Aspire's article discussing Support Engineering in the Concept Phase which can be found here:
<https://www.linkedin.com/pulse/support-engineering-concept-phase-peter-stuttard/>

A simple example will serve to illustrate the point. Imagine that we have to satisfy a user's need for a means of neutralising enemy armoured vehicles. Firstly, that need has to be formally stated, in unambiguous terms, this is "defining the "Problem Space" in systems engineering terms. Next we need to identify and then to evaluate 'design' options that have the potential to meet this requirement, they may include:

1. A ground attack fixed wing aircraft
2. An anti-tank helicopter
3. Man portable anti-tank missiles
4. Vehicle mounted anti-tank missiles
5. Land mines, dumb or intelligent
6. Loitering munitions (UAV's)
7. Artillery
8. Obstacles (tank traps, steel hedgehogs, concrete blocks, etc)
9. Combinations of the above...

Clearly, there are significant differences between these options, in terms of their effectiveness, their acquisition costs, and their through life costs. What we will also discover if we start researching any of these options is that within each category, there are many 'sub-options'. (Each of the nine examples above should therefore be considered to be a "Solution Class" rather than a solution per se).

One of the early tasks in our procurement programme is to select one of these Solution Classes for ongoing development, and the moment that we do that we have initiated the design process, albeit at a very high level.

How do we select the best option? We will have to conduct some form of analysis, which may require us to answer a wide range of questions for each Solution Class, such as:

1. Which is the most effective in operational terms?
2. Which are likely to be the most affordable, in terms of acquisition costs and TLC?
3. Which are the most adaptable and flexible?
4. Which are least likely to become operationally obsolete?
5. What are the technical risks associated with each option
6. How supportable are these options:
 - a. Will they have acceptable availability?
 - b. Are they readily transportable?

- c. How much resource will they require – how much of this will be required in the field?
- d. Are there any serious support risks associated with the options – e.g. the need for very scarce resources or high risk resources?
- e. Are there any technical obsolescence issues?
- f. Will there be adequate access to design and support data, so as to enable the end user to maintain the equipment and any associated training materials and technical publications?
- g. Do we have the requisite skills, facilities, tooling, etc to support this technology?

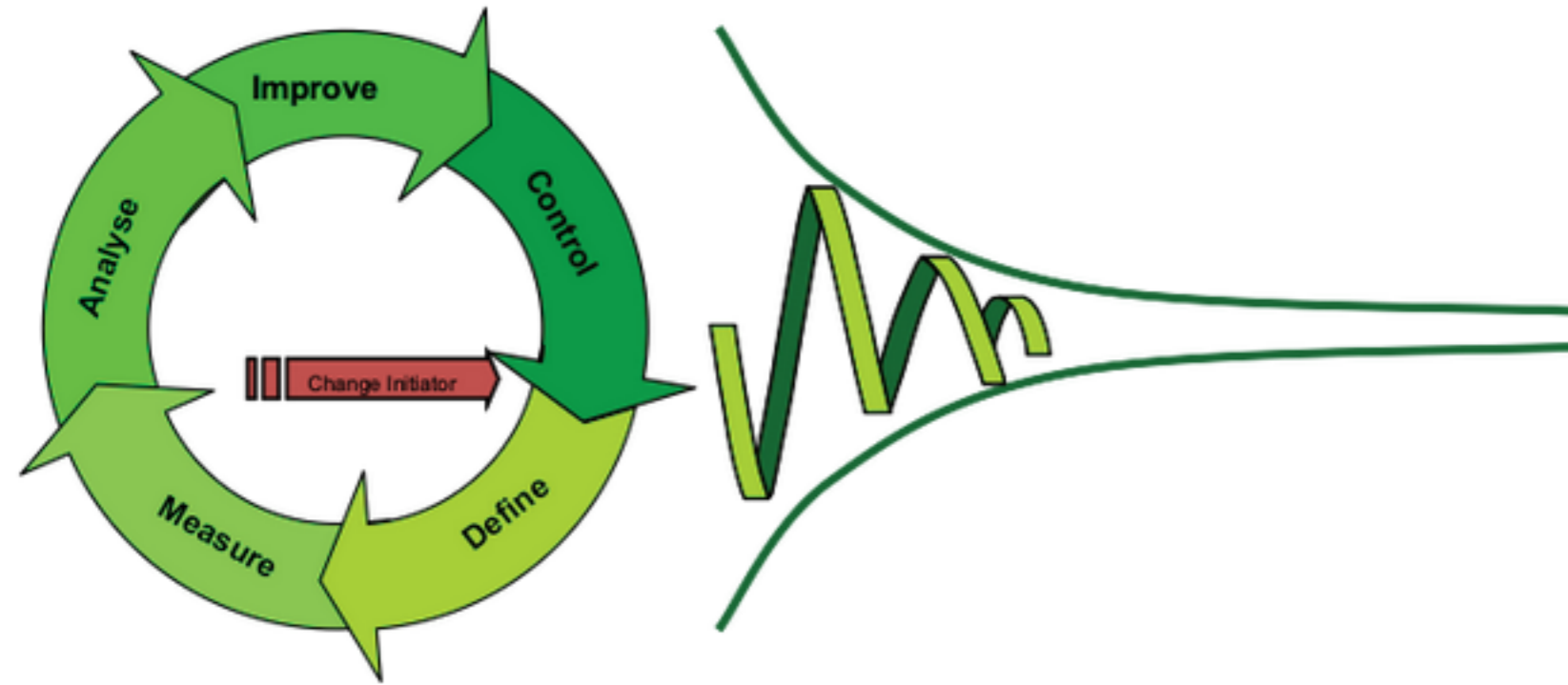
Once we have made our decision, we can then, and only then, further refine the requirements (think about it, consider the examples above). And then we repeat the process, but at a more detailed level. This process is repeated at successively lower indenture levels until we have a detailed set of requirements and a detailed design for our system.

So we have a simple process:- **Define requirements – Define design options** (at the appropriate level) – **Analyse / evaluate design options – Make a decision** (conduct a review) – **Reiterate** at a lower level of detail (apply the process recursively).

This is an iterative, recursive process, a form of spiral development (as defined in ISO 15288 the international standard for *Systems and software engineering – System life cycle processes*).

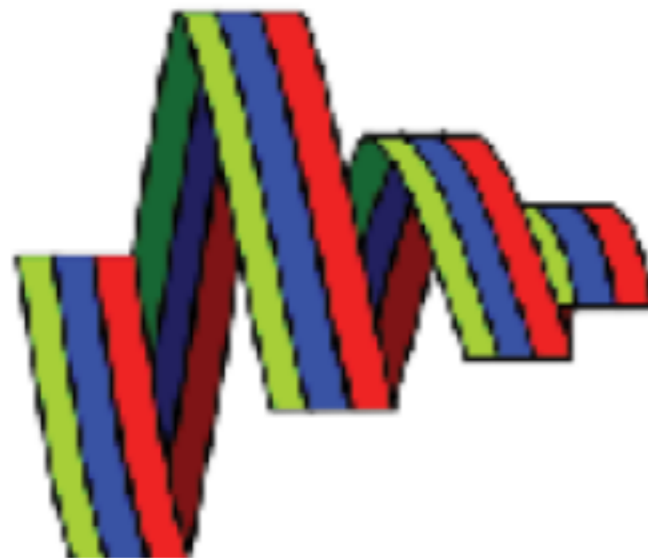


As for the Waterfall model, there are many variants on this simple idea, the diagram below illustrates the general principle, in this case using the DMAIC cycle often associated with six sigma programmes, but there are many others, such as the Plan Do Check Act [PDCA] and the Observe, Orient, Decide and Act [OODA] loop cycles.



This diagram implies that the risk and uncertainty associated with the procurement programme reduces as we cycle through the iterative, recursive, spiral development process.

I will introduce one more concept here, that of concurrent engineering, before I address the "that is the theory anyway" comment. TLC and operational capability (i.e. availability) are the product of the interactions between the Mission System, the Support Systems and the Employment Plan, so all these elements HAVE to be addressed concurrently. So our spiral looks actually more like this, the colours representing these three elements:



This means that we should be treating all aspects of support in exactly the same manner, e.g. we should be evaluating alternative Technical Publications solutions during the early life cycle phases; ditto, training, support equipment, contractor support arrangements, etc.

In this way we can effectively manage the immensely complex support arrangements that are necessary when operating modern defence platforms.

Or we would if it wasn't for those problems that I mentioned in the introduction...

CONSTRAINING THE SYSTEMS ENGINEERING PROCESS

So what are those problems, what is preventing this approach from being applied to maximum effect in the UK Defence sector?

The issues arise from two closely related elements of commercial policy. The first is the manner in which competition is applied. The first inklings of this problem became apparent shortly after the present CADMID cycle was introduced into the MoD back in 1999. The CADMID cycle was originally designed to provide a framework for an iterative and recursive System Engineering process as outlined above. During the Assessment Phase, on larger programmes, it used to be normal practice to run this as a "Competitive Assessment Phase". Two, sometimes three, contractors would be selected to develop a system level solution, one of which would be down selected at the end of the phases and taken forward for full development in the subsequent Definition Phase. This was a rather crude strategy for ensuring that more than one option was developed and evaluated, it represented one big cycle, one huge iteration of the spiral process, with a major decision being made at its conclusion.

It was of course extremely expensive, even though the MoD tended to only part fund this activity (the contractors were obliged to make a significant contribution to the costs of these programmes). The contractors however retained much of the IPR and this prevented the MoD from cherry picking the best ideas from the various options. The competition at the end of the Assessment Phase was based primarily on selecting the best solution, rather than on selecting the best contractor. Because of these challenges, the process has generally fallen out of use.

An alternative would have been to select the best contractor at the commencement of the Assessment Phase and then to work closely with them throughout and then on into the Demonstration and subsequent life cycle phases. This did not and does not happen, not on competitive contracts, the MoD is concerned that once the Assessment Phase is concluded, the contractors would then be effectively "locked in" to the contract. There could then be no competition for the subsequent phases and the contractor would therefore be in dominant position, a position which could be abused. You only have to read certain National Audit Office [NAO] reports which touch on non competed contracts, to understand that this is not an unreasonable fear.

Implementing an effective Systems Engineering process is therefore challenging.

The second issue arises from the MoD's desire to transfer as much risk as possible to the contractors, because this has some unintended consequences. The MoD will often fund a range of studies during the early stages of a programme, but will then be reluctant to hand the results over to the potential contractors engaged in the competitive process. The argument is, that if the contractors implement any of the study findings, and things do not go well on the future programme, they will put the blame, the responsibility, back on to the MoD. The result is that the MoD struggle to derive the full value from such studies, which may cost many, many millions of pounds.

The effect occurs whenever a phased approach needs to be applied to a programme of work. It is sensible, even on some smaller programmes, to implement an initial study phase to define and to agree the scope the programme, before embarking on the main study. For example, the requirements for a scoping study is an integral element of the Training Needs Analysis [TNA] process. The problem is that, for the reasons outlined above, the MoD often requires a second

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competition on the conclusion of this initial study. But if a second contractor is engaged, for a variety of reasons, they often cannot use the original work, they have to start again – crazy, but it happens.

To SUMMARISE

The result is that the iterative and recursive approach as described above, becomes ever more difficult to implement. Everything has to be done in what is effectively a single phase and that introduces significant financial, schedule and technical risk into any programme, risk that the systems engineering approach was designed to mitigate.

Systems Engineering processes start to break down and there is an inexorable slide back towards the significantly less effective, significantly higher risk, Waterfall approach. Contractors bidding for complex programmes may find themselves having to squeeze much of the activities that would rightly have occurred in the Assessment phase, into the period of the competitive bidding process.

The consequence is that complex programmes are not de-risked as they should be, that the MoD are not, cannot be, intimately involved in the critical early stages of a programme and the associated decision-making processes.

This Cranfield blog provides another perspective on the this latter point: <https://blogs.cranfield.ac.uk/defence-security/design-defence-acquisition-the-missing-piece-of-the-jigsaw>

Given the complexity of the support arrangements that are required for complex platforms and the support problems associated with defence equipment, not just in the UK but around the world, this is evidently a problem that needs to be addressed.

... AND THE SOLUTION IS...



Complex...!

The need is great, but a solution is not easy to define, but there are some general principles which I will outline here, and perhaps develop in a future article. These ideas fall into the really easy to say, really hard to deliver, category.

They are:

1. The MoD needs to develop an appetite for risk, few organisations, if any, are better placed to manage many of these risks. Not a new idea, but they could adopt some of the project and risk management principles applied to the Heathrow Terminal 5 programme.
2. We need to revisit the CADMID life cycle and the Systems Engineering processes as applied by the MoD and the Defence industry and re-establish some basic principles.
3. The MoD need to review their commercial and contracting approaches and to design and to implement more agile, more flexible approaches; approaches that will complement, rather than conflict with, systems engineering principles.

ASK MIKE

HELPING YOU MAKE THE RIGHT DECISIONS
AND GETTING YOU THE MOST OUT OF YOUR
INFORMATION ASSETS & STRATEGIES



Michael Ingledey answers your questions - if you have a question that you would like answering - contact michael@techdataworld.com

Can you tell us how much we would expect to have to invest in an \$1000D CSDB solution? We are going to need to buy one and have been asked to put a business case together.

So you are asking me how long a piece of string is. I can say that I am aware of almost all of the pricing models that the vendors employ - but - I am under None-Disclosure Agreement with all of these vendors and it would be completely unethical for me to share this with you or anyone. My suggestion in all honesty is write a simple RFP (Request for Proposal) document and ask them to respond to your need - but be open that it is enquiry only at the moment.

We would like to use the Adobe FrameMaker installed \$1000D templates and make our own app out of them - do you know if this is permitted?

Thank you for your email and what a great question - I contacted the Adobe Technical Communication Suite team and asked the question for you. The product manager from Adobe responded with a YES! You are permitted to take and change those templates as much as you like to create your own application. The advice that Adobe gave me was to recommend that you copy the installed templates and back them up before you go ahead and try and make an application yourself.

We want to do your Understanding XML and \$1000D for Engineers course - do you plan to run this course online?

We have had a number of requests now on delivering this course online. We will be recording the lessons and making it available as a full course during 2019. I would suggest that you subscribe to our newsletter, download the app or follow our social channels to get notified when we will allow registration for this course.

We need a CSDB that will permit the publishing to meet the UK MoD IETP requirements - do you know of one or could you suggest a couple of companies we could speak to?

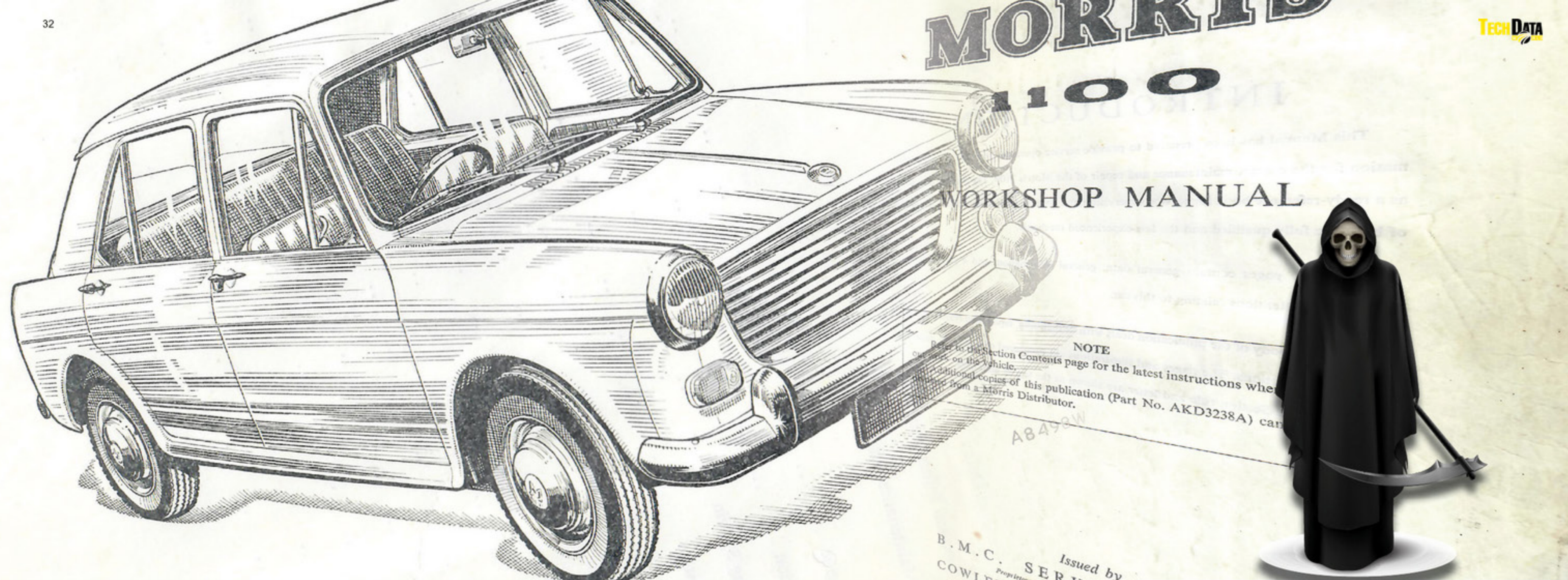
In your email you imply that you need to publish to Trilogi[®] View - there is a specific builder for the production of this viewer - I have sent you the contact details of the Trilogi[®] team who will be best served to answer your question as I do know that there are a couple of CSDB vendors who say that they support the output requirements for Trilogi[®] - so in short - I think you are best served speaking to the team at BAE Systems directly on this one.

We are a defence supplier and would like to connect with other defence companies to discuss issues that they may be having supporting common clients - can you help us build a list?

Yes! I have started putting together a list for you and I too have had some ideas in this area and will be discussing with you further on how I think we can do something fresh and new in the market - great questions and I am excited by this.

Would you be open to being interviewed by an aerospace market research company? We would like your opinion on technical publications in the commercial air space.

I am always open to a discussion of course, anything that can help either promote or develop the discipline of technical communication in our sectors is something I am more than happy to support. So yes, let's set a date in the diary - maybe even a podcast or two?



20 Considerations of Data Conversion

The nature of our market dictates that a great deal of our content is often something we may have produced many years prior. Usually well before structured languages were the trend and in software packages that have long been retired or lost through multiple iterations of corporate acquisition or merger. Yet, we are still keeping content alive to support our technical publication need.

Let me address this term Legacy Data – I dislike it, Legacy infers many things mainly it conjures up images of death or the grim reaper heading our content way. I believe that we should be talking about legacy file formats or structures, not inferring the content itself is legacy. The very fact that we are discussing conversion suggests the content itself is still very much alive and indeed valuable to our project.

Recently I have been performing many consultancies and training sessions mainly around structured languages and how best to leverage an adoption be it S1000D, DITA or some other XML approach. Without fail legacy file format content comes up during a discussion, I am spending more time working through the process and method on if, when and how of conversion. Many need the content migrating to structure and using the same content in the brave new structured world.

In this article, I want to look specifically at some of the considerations around moving a paper-based technical document over to S1000D – what are some of the key areas I see and what you need to consider. In my experience it is never a simple turn-key conversion process; there is always a degree of analysis, method and technical set-up

before we can begin to migrate our content.

S1000D calls out in the Categories of Business Rules the need to accommodate and plan for Legacy Data – explicitly mapping rules, but what does mapping rules mean? When we talk about mapping, we could be talking about Structure to Structure rules, for example, if we are migrating content from one DTD/Schema to another. You would ordinarily handle this programmatically, and many software vendors will provide tools to do this. We may also be talking about mapping rules from paper to structure, how do we take what is on a paper-based representation of information and apply DTD/Schema structures to it?

Before we even start with paper to structure, we need to be sure we are ready. This first

Paper to S1000D

step means we need to have a set of rules and guidelines in place for us to apply as we move through the structuring process. We should all know by now that S1000D is much more than just the technical information presented to the end user. We have to consider METADATA, our codification strategies and all of the hidden information that is vital to S1000D content management. Before we start applying mapping rules, you must make sure we have at least the very basic of our S1000D META structures and definitions available to us.

Join us at TDW-Live where we will be diving deeper into how and why we would convert a technical manual to structure and the options available to us far beyond using S1000D.

www.tdw-live.com

1

The

MORRIS

1100

4

WORKSHOP MANUAL

NOTE

Refer to the Section Contents page for the latest instructions when carrying out work on the vehicle.

Additional copies of this publication (Part No. AKD3238A) can only be obtained from a Morris Distributor.

6

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1

Before we start we need to set our rules for conversion - a great deal of what we will need to do will be driven by the content we are converting. At a minimum we should know what we are doing with codification and structures (modules) we wish to create.

At this time it is also sensible to consider how we will publish this content going forward. Do we need to replicate this formatted output or do we wish to do something modern? Making sure that your publishing environment will support your output needs is a major question of your software supplier.

2

Not uncommon when we are taking paper-based manuals to structure - there may be hand-written annotations, amendments, notes of other information. We need to decide what it is we will do with this information.

3

Have we registered our product information as defined in S1000D? This will form part of our codification strategy and baseline

4

We know what kind of manual this is, this will help us structure our S1000D Publication Modules when we later need to recreate this output.

5

Do our manuals have common boiler plate information that we need to plan and manage across multiple manuals?

6

Is the information up-to-date and accurate and modern? Example shows old phone number system, no web address or email contact details.

7

As we work through the technical manual we need to be sure that the current logical breakdown of the technical manual leans well to S1000D structures.

8

Is the text written in such a way that we can actually migrate it easily (without rewriting) to S1000D modular structures?

9

As we move to structured languages special characters are identified in specific ways - we need to be sure that any conversion process is aware of this need.

10

Specially presented information (Italic Centre Aligned with Special Characters) - have we configured S1000D to support our structural needs?

11

Do we plan to use Simplified Technical English (STE)? If so is our source text supporting the STE requirements or will we need to rewrite our content?

12

References - do we know how we will create and maintain cross references both internal and external? How will this reference be resolved in the new output?

13

Illustrations - will we re-draw, scan, photograph our images into a new modern format? Will we trace and convert to a new modern file format?

14

Warnings - how do we need them to be identified, do we have any special rules we must consider for our technical authors to follow?

Section A.16

DISTRIBUTOR DRIVING SPINDLE

Removing

Remove the distributor as detailed in Section B.6.

8

Take out the screw securing the distributor housing to the cylinder block and withdraw the housing.

Screw a $\frac{5}{16}$ in. UNF. bolt approximately $3\frac{1}{2}$ in. (89 mm.) long into the tapped end of the distributor drive spindle and withdraw the spindle.

Refitting

Turn the engine until No. 1 piston is at T.D.C. on its compression stroke. When the valves on No. 4 cylinder are 'rocking' (i.e. exhaust just closing and inlet just opening) No. 1 piston is at the top of its compression stroke. If the engine is set so that the 1/4 mark on the flywheel is in line with the pointer on the clutch cover, or the dimples in the crankshaft and camshaft gears are in line, the piston is exactly at T.D.C.

Screw the $\frac{5}{16}$ in. by $3\frac{1}{2}$ in. bolt into the threaded end of the distributor drive spindle, holding the drive gear with the slot just below the horizontal and the large offset uppermost, enter the gear. As the gear engages with the camshaft the slot will turn in an anti-clockwise direction until it is approximately in the two o'clock position.

Remove the bolt from the gear and insert the distributor housing and secure it with the special bolt and washer.

Ensure that the correct bolt is used and the head does not protrude above the face of the housing.

Refit the distributor, referring to Section B.6. If the clamp plate has been released.

Section A.17

FLYWHEEL AND CLUTCH

Removing

Remove the battery and battery carrier.

Remove the starter as in Section L.5.

13

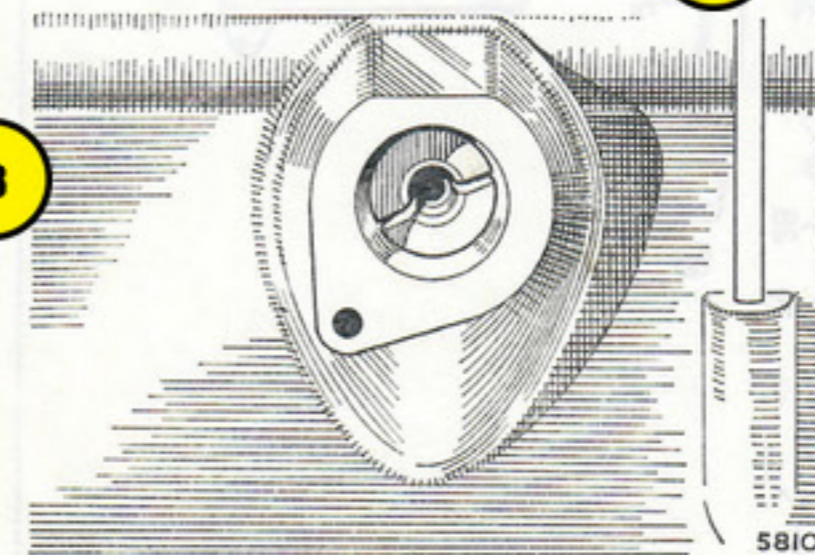


Fig. A.9

The distributor drive with the slot in the correct position and the large offset uppermost

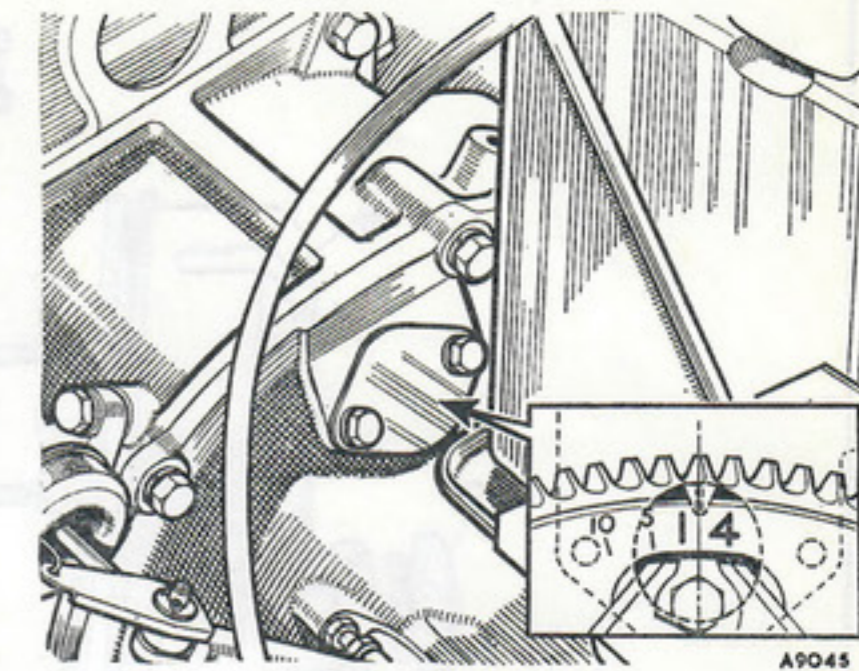


Fig. A.10

The timing marks on the flywheel can be seen with aid of a mirror after removing the inspection cover. T.D.C. position is indicated by the mark 1/4 shown inset; 5° and 10° marks are also provided

10

Withdraw the split pin from the clutch operating lever pivot, release the tension spring, pull the push-rod from the hydraulic slave cylinder, and remove the lever assembly from the clutch cover.

Withdraw the slave cylinder mounting screws and secure the cylinder against the engine bulkhead.

Remove the exhaust pipe clamp and the radiator cowling steady bracket.

Remove the two nuts and set screws securing the rear engine mounting to the sub-frame side-member and extract the nine set screws securing the clutch cover to the flywheel housing.

Raise the engine with lifting equipment sufficient only to enable the cover to be removed. Make sure that the fan blades do not make contact with and damage the radiator core.

Undo the three retaining nuts and remove the clutch thrust plate from the pressure spring housing.

It is essential that the engine is turned to T.D.C. on Nos. 1 and 4 cylinders before removing the flywheel. In this position the 'C' washer locating the primary gear is fitted with the bridge linking the two flats above the crankshaft and cannot drop. If this precaution is not taken the 'C' washer can fall and become wedged behind the flywheel oil seal and prevent the removal of the flywheel without serious damage to the seal.

Knock up the locking washer and slacken off the flywheel retaining screw three or four threads. Use Service tool 18G304 together with adaptor set 18G304M to break the flywheel away from its seating on the end of the crankshaft.

WARNING.—As the flywheel is pulled from the crankshaft, oil from the annulus at the back of the flywheel oil seal may spill down the face of the flywheel onto the clutch driven plate. This should be observed at the time of removal to avoid assuming that oil has passed the seal whilst

GENERAL INFORMATION—continued

Only anti-freeze of the ethylene glycol type incorporating the correct type of corrosion inhibitor is suitable and owners are recommended to use Bluecol Anti-freeze. We also approve the use of any anti-freeze which conforms to Specification B.S.3151 or B.S.3152.

The recommended quantities of anti-freeze for different degrees of frost are:

Down to		Degrees of frost		Solution	Anti-freeze		
					*Pints	*U.S. Pints	*Litres
° C.	° F.	C.	F.				
-19	- 3	19	35	20%	1½	1·8	·85
-26	-15	26	47	25%	1¾	2·1	1·00
-33	-28	33	60	30%	2	2·4	1·10

*With heater fitted.

RUNNING-IN SPEEDS

The treatment given to a new car will have an important bearing on its subsequent life, and engine speeds during this early period must be limited. The following instructions should be strictly adhered to.

During the first 500 miles (800 km.)

- DO NOT exceed 45 m.p.h. (72 km.p.h.).
- DO NOT operate at full throttle in any gear.
- DO NOT allow the engine to labour in any gear.

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Seat belts are available from B.M.C. Service Ltd. as an accessory. Fitting should only be carried out by an Authorized Morris Distributor or Dealer.

The complete seat belt is made up of two sections, both adjustable, which, when in use, are connected by a quick-action buckle.

Attachment points are incorporated in the construction of the body. These attachment points are located on the centre door pillars, the rear of the door sills, and the sides of the central floor tunnel.



The seat belts in use, showing the correct position of the buckle

Make sure when belts are fitted for both seats that the short belt being used for either seat is attached to the side of the tunnel nearest to the wearer, i.e. the belt must not cross the tunnel.

Adjust the short belt until the attached buckle is located just in front of the hip (see illustration). The upper part of the long belt passes diagonally across the chest; the lower part returns around the waist to the door sill attachment point. The buckle tongue attached to the long belt should be approximately at the belt centre.

The buckle is fastened by pushing the buckle tongue into the buckle until a positive click is heard. Adjust the long belt until the waist portion is comfortably tight and it is just possible to slide a hand between the upper part of the belt and the chest. To release the buckle, lift the buckle flap to approximately 90° and exert gentle forward pressure on the belt at the same time.

Fold and stow the long belt neatly in the clip on the centre door pillar immediately after use to ensure safe exit and entry for the occupants of the car.

15

Information presented in tables - will it convert to an S1000D look and feel? Do we need to create specific presentation and creation rules?

16

Footnotes, Legends and other similar information all need to be correctly identified in S1000D structures.

17

Lists and Bullets - do we have special presentations rules? Should the source text be presented in a clearer, modern concise way?

18

Illustration Identification - do we need to carry this over to the S1000D environment or do we plan to replace and remove the old numbering system?

19

Highlighted text must be identified appropriately in S1000D - do our technical authors know the correct method and definitions we will use on our project?

20

Version information - do we plan to reset the document baseline to conform with S1000D or do we need to carry over existing issue information for the document?

Haven't we come a long way?



34

TECHNICAL DATA – FIRST IMPRESSIONS MATTER

Imagine your client is arriving to receive the multi-million dollar product you had to produce. You know that the technical documentation is your client's first impression of your product. Technical documentation specifically must convey a clear message while presenting complex subject matter in a way that people can understand. Good technical writing is more than words and punctuation. It is the door to your product that is entered by the client when he picks up the technical manual. The first impression created by that action can have a long lasting effect.

SCENARIO ONE

Your client picks up a manual and starts to page through it. You know that the skill of good technical documentation is an art mastered by professional, knowledgeable technical writers, a skill that can only be achieved with years of training. They make information more useable and accessible to those who need that information, and in doing so, they advance the goals of the companies that employ them. The technical writer's task is to translate the technical documentation produced during the development phase into more readable text.

Your client notices that the front cover and back cover are contemporary, functional and provide information regarding what type of manual it is and for what product it is written. Turning the pages provides him with information such as an executive summary of the content, list of terms and abbreviations used in the manual, an exquisite list of contents, including lists of figures and tables.

Paging through the manual he notices the graphics, especially line illustrations. The illustrations are clear and flawless and embrace captions and annotations with the purpose to complement the text. The headings and subheadings give him a clear indication of the structure of the document. The text is clear, concise, to the point and complemented by tables and diagrams where needed.

The layout of the document presents headers and footers with essential information such as page numbering and chapter indication as well as the logo of the client's company. The margins are mirrored and not too much or too less wide space manifests.

The style of the document leads his eye to the well-written, grammatically correct technical content without any spelling mistakes. He could not help to notice that the text is to the point, clear and written in the active voice.

Straightaway the esteem of your company increases and client is more lenient in his approach of accepting the product offered.

SCENARIO TWO

Your client picks up a manual and starts to page through. You have cut on the budget for the logistical element of this project to use on other, more critical elements (or so you think). You have used engineers and designers to write most of the technical content of the technical manuals.

Your client notices that the front cover and back cover are not informative regarding the content of the document. The project name is wrongly spelled. Turning the pages, he could not find the executive summary of the document. The list of content catches his attention; he follows one of the items on the list but cannot find it on the page as indicated in the contents list.

RITA SEPHTON LIVES IN PRETORIA, SOUTH AFRICA. SHE HAS A BA DEGREE, ENGLISH AND COMMUNICATION. SHE MANAGED A TECHNICAL LOGISTIC DOCUMENTATION FOR MORE THAN 15 YEARS AT DENEL LAND SYSTEMS. SHE ALSO HAS PLAYED A FUNDAMENTAL ROLE IN INTRODUCING AND IMPLEMENTING S1000D IN SOUTH AFRICA.

In the Spring of 2014 an idea was born - a magazine for the aerospace, defence and space technical communication market! 2019 marks the **fifth anniversary** of the TDW magazine and we are so proud of this achievement. We now have such a huge database of archived articles, we have decided to run some of them again, but from way back! A massive thank you to everyone who has contributed to the magazine over the last twenty issues and we look forward to bringing you more colourful and engaging content. We kick off this quarter with an article from South Africa and Rita Sephton.



In the manual, he notices the line illustrations. Some of the lines are vague and not clear. There are no captions and seldom annotations, which are difficult to find referenced in the text. Titles, headings and subheadings styles are inconsistent and not such that he could grasp the structure of the document.

The sentences are long, difficult to understand and contain words and phrases that seemed to be taken from a product development specification. There are grammar and spelling mistakes in the document.

Experiencing this, your client questions the technical integrity not only of the document but the entire project. You would have a hard time with the acceptance and final delivery of the product.

FIRST IMPRESSIONS

Often the first impression you make is based on a document you create. Your document represents you to the readers. Many companies spend millions on developing the product but cut on the cost of developing technical documentation. The saying that the logistic discipline stands last in the queue regarding resources is often not a perception, but reality. The development of any technical data is a skill that is greatly underestimated. Technical data can be product specifications, technical logistic documentation, training manuals, scientific, medical and research documents. Technical data is a crucial element of any product and captures the essence of that product. These technical data has to be translated into usable technical manuals that can be used by the customer.

TECHNICAL DATA

Technical data is recorded and presented in many formats. It is used in scientific and engineering environments in public and military environments and is applied to support the hardware in these environments. Consequently, the genre has suffered from lack of attention and precision and fully grasping the magnitude.

The way you present your information can have as much of an effect on the users as the information itself. If your document is congested or difficult to understand, users will simply find it challenging to use. On the other hand, if your document is easy to understand due to effective headings, graphics and other design elements, users will respond positively.

Technical data that are designed and organized well generally last longer because of its usefulness and ability to be used constantly. Having a quality document not only makes your document look good but it can also alter your audiences' perception. A well-written technical document seems more professional, which gives the document more credibility. This is a way to make an impression by creating technical data that stand out from the rest.

Appearance matters, the visual appearance and presentation of a document are extremely important and should be taken with care. With proper planning and appropriate use of design elements, a document can speak volumes not only in content, but in visual appeal.

This first impression of the client establishes a sense of trust in the producer that further contributes to mutual respect and collaboration.



TOOLS FOR TECH COMM

ABBYY® FineReader®

At TDW we use multiple software tools to create both our training content as well as performing consultancy tasks for our clients. In this series, we look at some of the tools we use and the reasons why we use them.

This quarter we look at **ABBYY FineReader** an affordable and powerful Optical Character Recognition tool that we use on data conversion tasks.

Often TDW is asked to put together a demonstration on how clients data could look if they were to convert it to structure and publish to other modern outputs. One of the difficulties with data conversion is getting the PDF/Paper formats into a structure that we can manipulate to desired structures like S1000D data modules.

The process we use is to scan in a document into Abbyy FineReader and then export out to HTML ready for some conversion scripting (XSLT) to migrate to S1000D structures. Smaller conversion projects that do not require a full-on XSLT conversion process, Abbyy Finereader provides an excellent mechanism to extract illustrations from files and stores them as individual images for us to author into data modules.

Join us at TDW-Live this year where we will demonstrate how tools like Abbyy FineReader are used by TDW in our data conversion workshop.

More details & Free Trials:
<https://www.abbyy.com>

Convert Documents

- Open in OCR Editor
Advanced conversion and verification
- Convert to PDF
- Convert to Microsoft® Word
- Convert to Microsoft Excel®
- Convert to Other Formats

THE TOOL HAS MULTIPLE CONVERSION & IMPORT OPTIONS

Scan Documents

- Scan to OCR Editor
Advanced conversion and verification
- Scan to PDF
- Scan to Other Formats

Adding the image to the OCR project

Recognizing the OCR project...
24 of 64 pages recognized

Hide Cancel

Scan to Other Formats

THE IN-BUILT EDITOR ALLOWS US TO CORRECT ANY ERRORS FROM SOURCE

ABBYY FINEREADER HAS ONE OF THE MOST POWERFUL AND ACCURATE IMAGE, TEXT & TABLE IDENTIFICATION TOOLS WE HAVE SEEN

ON THE COVER

When working with clients all around the world I am often faced with the discussion of "we have done it this way forever, why would we change?" - Often a very reasonable question but I thought that this quarters cover page illustrates these discussions beautifully. Is a bird in hand better than two in the bush?



DID-YOU-MISS?

The three tech comm books we read!



What are the three technical communication books we suggest and which book are we reading at the moment? Watch now on YouTube



Get the app

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Technical documentation world is a Limited company registered in the United Kingdom REG: 07304547. VAT Reg: GB 984842665

CONTACT US

POSTAL ADDRESS:

TECH DATA WORLD
ST JOHNS HOUSE
ST JOHNS STREET
CHICHESTER
WEST SUSSEX
PO19 1UH
UNITED KINGDOM

CALL US:

+44 (0) 023 92 160 776

EMAIL & WEBSITE:

memberservices@techdataworld.com

<https://www.thetdwmagazine.com>

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