NOTE: While this does not map exactly with the current technical documentation rubric, it was put together by an experienced MATE technical documentation judge, Neil Stagg, who has the best interest of all teams in mind!

Explorer Technical Reports - Check Sheet

You have worked hard on your ROV build project over many months!

Difficult to juggle in with full time studies maybe some frustrations, ...but in general had fun, team camaraderie, learnt a lot of new stuff and made a ***great*** team entry. MATE encourages lots of additional skills which are of real interest to potential employers -so it will fit nicely into your CV too!

Tell us about it!!

Please don't skimp on telling the judges about the great work you have done. Otherwise you risk giving ***easy*** points away. The following notes are based around MATE judges' observations over recent years for **simple** improvements - and hopefully will provide some help to avoid dropping those points.

All so often ....the report is missing the perfect story- but judges can see "between the lines" there is evidence of a fantastic piece of work and great technical results - just missing a technical report that scores as many points as possible.

Here are some tips which hopefully will provide some assistance. Have fun!

No	Item	Check Guide
	Overall Presentation	
1.	***Document Specifications***	Have you used the allocation of 25 pages? Many excellent reports could be even better by using the full allowable space to tell the judges even more about your great work. Are pages numbered? Table of contents?

No	Item	Check Guide
2.	Document Specifications:- Basic-**English** Language	If your team's first language is **NOT English** - **don't worry**-we want your participation and you are a valued competitor. A good idea is to consider a check read by a person **fluent** in English. Arrange with them early, so to get the best result. Don't let this person re-write but merely make suggestions and advise where corrections are needed. Even better if that person is not a mentor or technically connected with your MATE entry- .....*then they will provide an independent input.*
3.	Abstract	This needs to be "catchy" as it will give the judge an early impression of the general content of the report.
4.	***Use of Images and Data***	• Are the diagrams or pictures legible? • Are diagrams referenced and used in the report- or just in the report to take up space? Judges can spot this very easily. • A report making use of and supplemented by diagrams is much easier to follow.
5.	Photograph of your ROV (complete)	**Important. Show it off!!** Is this a clear picture somewhere in the report? ie NOT squeezed into a corner somewhere. fFront page is acceptable)
6.	Photo of the Team	Is this included? Names?
7.	***Acknowledgments and References***	**Some basics here**: 1) Your learning institution that has helped by providing this opportunity. 2) Mentors. 3) Any support or donations. 4) The MATE Centre (don't omit this one!!)

No	Item	Check Guide
8.	***References***	Don't need a long list: For example: • Your internet sources, • Periodicals and magazine sources, The MATE ROV handbook (**Underwater Robotics**) is also an excellent reference and shows the judges that your are well researched in your efforts. *Note: This book is quite expensive, but easy to read and well worth the investment --maybe your learning institute library can obtain a copy from the MATE Centre.*

Teamwork		
9.	***Planning and Project Management***	*You should have developed* ***a plan of where you wanted (and needed) to be - and by when,*** *in your MATE project development.* Don't forget to mention use of a planning tool such as a bar chart. A few lines about how the team planned and apportioned the project elements amongst the team members.

	Design Rationale	
10.	***Content***	How did you arrive at the design you have used? Any steps Trials
11.	***Build vs buy vs new vs used***.	This is a *balancing* part of your system development. It is acceptable to re-use components from previous years as but please tell us why you have gone this route. Often (commercially procured) thrusters are a typical component re-used due to high initial cost as well as the time consumed to develop in-house.. The more originality of the entry - the more it will attract judges attention.

	SID	
12.	Interface Diagrams	Most teams get this right! Please make them sufficiently legible in order to follow. Neat clear block diagrams. Distinguish between surface and sub surface. Don't forget safety features such as fuses

	Safety	
13.	***Safety Content*** Safety is the most critical aspect of all operations in the subsea industry. Judges (practically all from offshore associated industries) will scrutinise this section of your report.	Think it through. **Safety IS the most important aspect of your project**. **The key SAFETY drivers for the team through the entire MATE competition are:** 1) No harm to yourselves as team members (or onlookers) 2) No harm to your equipment 3) No (perceived) damage to the underwater environment that the MATE mission is based around.
14.	***Safety Procedures***	The report should reflect the box above all the way through- ie that your team are thinking and working safely - for example: • PPE when working with hazardous tools or materials (eg drilling, soldering or chemicals/glue) • Safety of your design • Safety of the team and the environment • Fuses and emergency cut-outs What procedures are you following that will ensure the operation remains safe? • **Pre dive check list** is a great piece to add in the appendix. Favourites are: ✓ Describe any pre dive tests and checks with the system. ✓ Power and safety systems all functional. ✓ Safety equipment in place. ✓ Personal protective equipment, glasses, life jacket etc. ✓ Non team bystanders all standing clear. ✓ Pilot and assistant comfortable with no distractions. • etc

	Critical Analysis.	
15.	***Testing and trouble shooting***	How did you test the complete vehicle? Did you test subsections of the vehicle? What in particular components or subsection gave you the most problems? Tell us how you solved the problem(s).
16.	***Technical*** challenges and ***Personal*** challenges	Easily mixed up -but they **are** different. Give both of these some thought for example: 1) As per the box above, what was a key challenge to the design -or the build - or the test (something that really caused delays and maybe even some frustration)? 2) How did you overcome it /them? --- What was/ were personal challenge(s) (include a few team members)? Good examples are: 1) Conflicts with study time, 2) The time needed for learning new skills such as a special software or programming, 3) Workshop skills, -Learning how to safely use new tools are good examples. How did you overcome these issues? Examples could be: ✓ more appropriate time allocations. ✓ Sharing of problematic activities among the team. ✓ Regular meetings and discussions.
17.	Given more time what would you do differently next time?	Discuss this among your team. A thoughtful statement here gets the points!

No	Item	Check Guide
	Accounting	
18.	***Budget***- ***Get it right!***	This is what you are starting out with as an estimate of what you have allocated to put aside for your project. ***Not*** your final costs. It is always a good idea to put a blank sum in for unforeseen costs or ***contingency*** - stuff you had not expected - for example a change in your design incurring more cost. Re-using old parts is acceptable - especially if they are of significant cost savings - it simply doesn't make any sense to buy them again. Allocate a value for them in your budget (which will come through in your final costs). Don't forget to clearly identify re-used vs new vs donated vs purchased.
19.	Cost accounting	As you work through your project and getting towards the end, you will be approaching the ***actual* costs**. Great if it is close to the original budget (eg travel costs to the MATE finals) but often there are differences...**don't worry**....judges will normally not penalise this if reported correctly.

No[1]	Item	Check Guide
	Other	
20.	Efforts in community service (**Outreach**)	Excellent effort that you have found the time to contribute here! But do not use valuable space here in your technical report other than a brief mention. Reporting this is covered in the competition elsewhere.
21.		

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