









LDG-ECFA Detector Infrastructure resources

General

	Survey name	LDG-ECFA Detector Infrastructure resources
	Author	stan
	Survey language	 English
	Survey URL	https://www.surveio.com/survey/d/S6X3T8A608B2U7D1K
	First response	04/28/2023
	Last response	09/11/2023
	Duration	136 days

Survey visits

22

Total visits

3

Total completed

0

Total unfinished

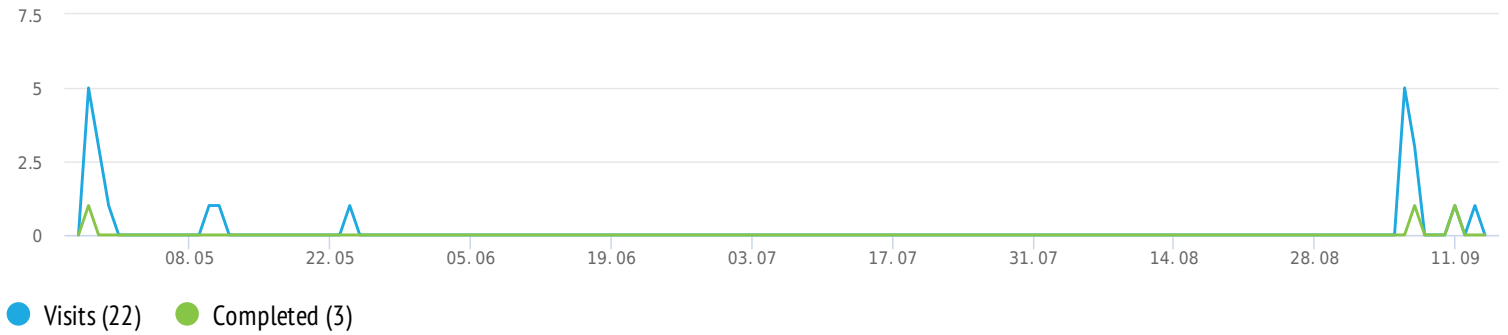
19

Displayed only

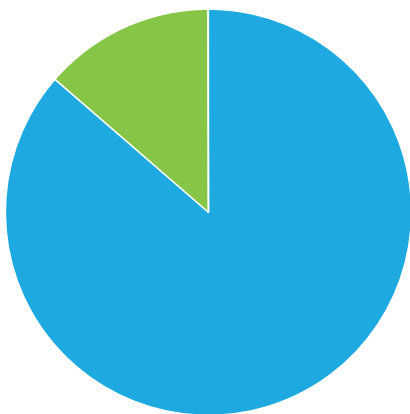
13.6%

Overall completion rate

Visit History (04/28/2023 – 09/11/2023)

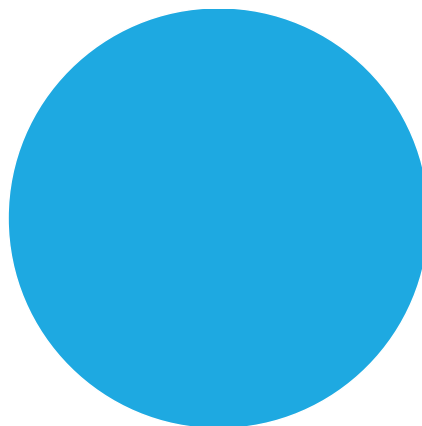


Total Hits



- Displayed only (86.4 %)
- Completed (13.6 %)
- Unfinished (0.0 %)

Visit Sources



- Direct link (100.0 %)

Average Time of Completion



- 1-2 min. (33.3 %)
- 5-10 min. (33.3 %)
- 10-30 min. (33.3 %)

Results

1 Identify your lab or institute

Text answer , answers 3 x, unanswered 0 x

- Laboratori Nazionali di Frascati INFN via E. Fermi 54 00044 Frascati (Italy)
- Nikhef, Science Parc 105, 1098 XG, Amsterdam
- tokyo

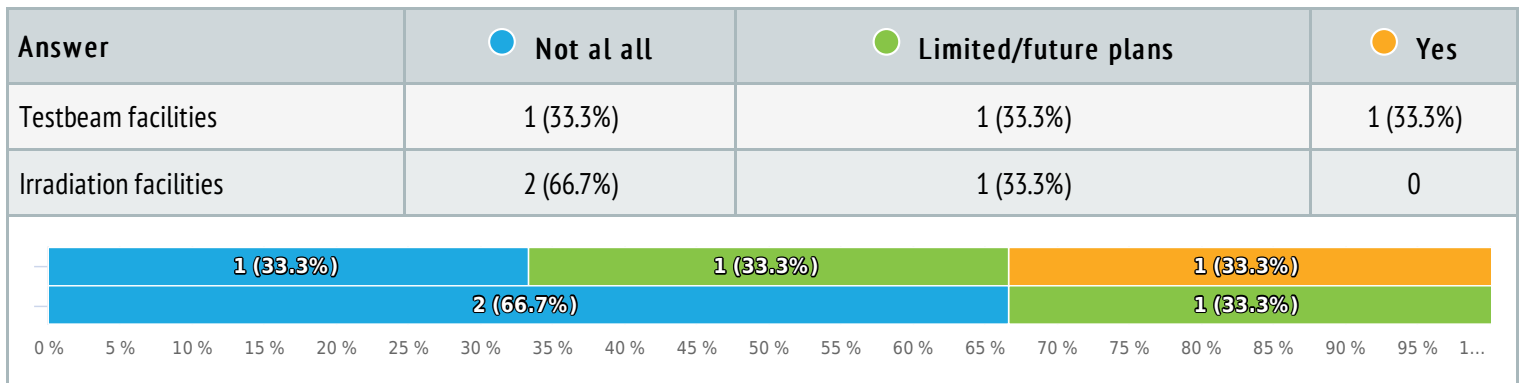
2 Contact person

Text answer , answers 3 x, unanswered 0 x

- Fabio Bossi (Director) fabio.bossi@lnf.infn.it
- me
- Stan Bentvelsen (s.bentvelsen@nikhef.nl). Mobile: +31 6 51111 284

3 Which facilities does your lab contain?

Matrix of single choices , answers 3 x, unanswered 0 x



4 Provide technical details for your testbeam facilities

Text answer , answers 2 x, unanswered 1 x

- Beam Test Facility (BTF). Electron and positrons beams typically 500 MeV. Electrons can reach 700 MeV. Particle flux from 10^{10} down to 1 particle per spill. Routinely operating for test of particle detectors

5 Provide technical details for your irradiation facility

Text answer , answers 2 x, unanswered 1 x

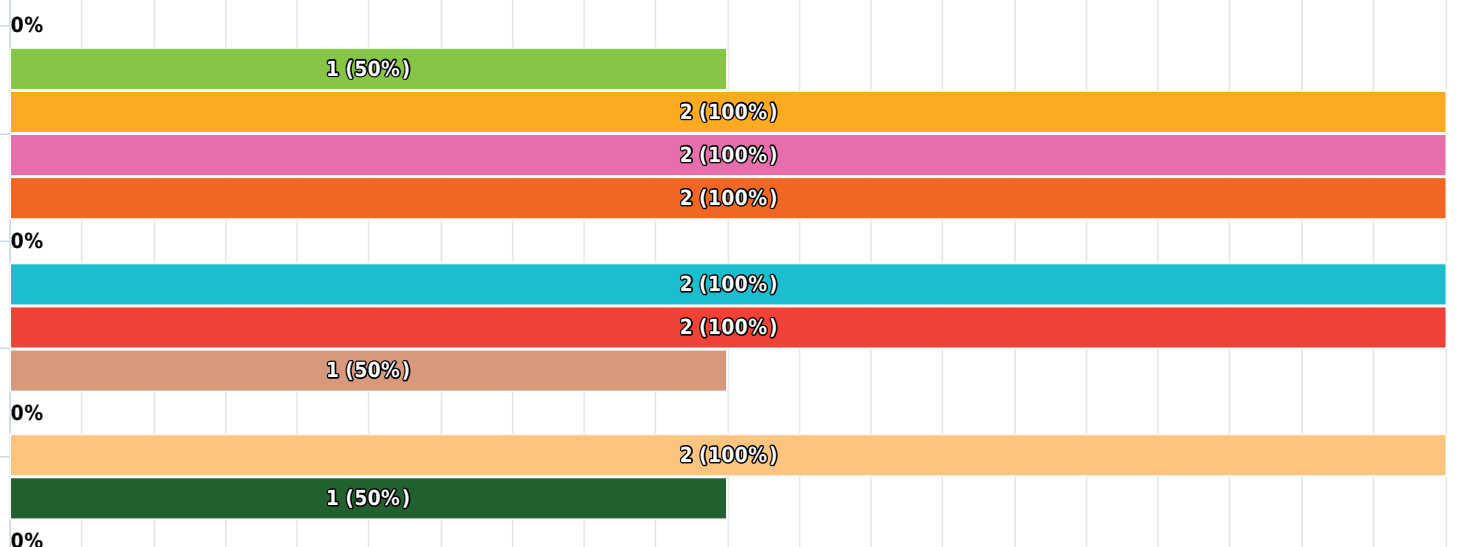
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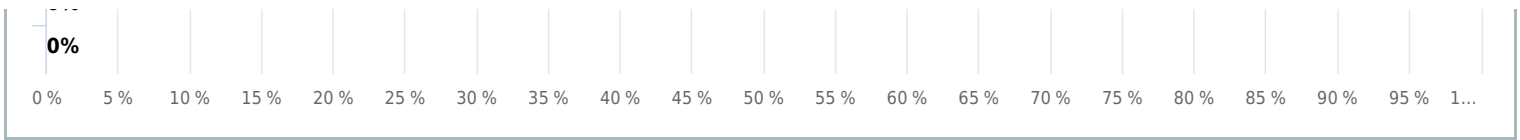
● Same as before.

6 Does your lab contain test set-up for characterisation and test-bench measurements?

Multiple choice , answers 2 x, unanswered 1 x

Answer Choices	Responses	Ratio
● Nothing at all	0	0.0%
● Detector Characterisation Laboratory	1	50.0%
● Manufacturing and Production Workshop	2	100.0%
● Assembly Facilities	2	100.0%
● Clean rooms	2	100.0%
● Gas system design and production	0	0.0%
● Mechanical workshop	2	100.0%
● Electronic workshop	2	100.0%
● Analysis Laboratory	1	50.0%
● Metrology Laboratory	0	0.0%
● Radioactive Sources (active, passive)	2	100.0%
● Data acquisition systems	1	50.0%
● TCT, 2PA-TCT facilities	0	0.0%
● Other	0	0.0%





7 Please detail on the question above when necessary

Text answer , answers 3 x, unanswered 0 x



Nikhef has 3 technical groups, each consisting of ~25 fte technicians and engineers: mechanical workshop, electronics workshop and computing workshop. We have one cleanroom and various project construction rooms. Nikhef is currently undergoing a renovation, which will be finished by the end of 2023.

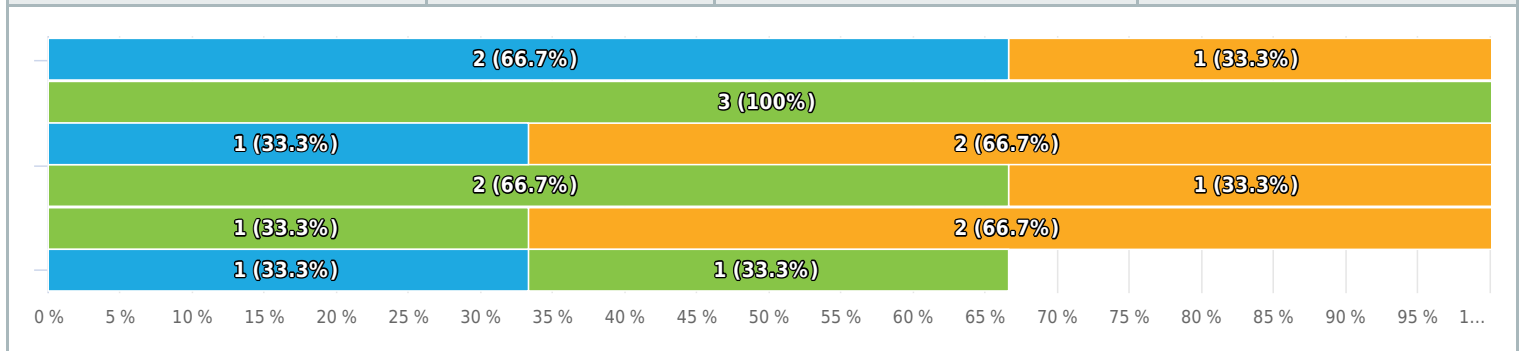


we want more

8 Electronic engineering and design - support

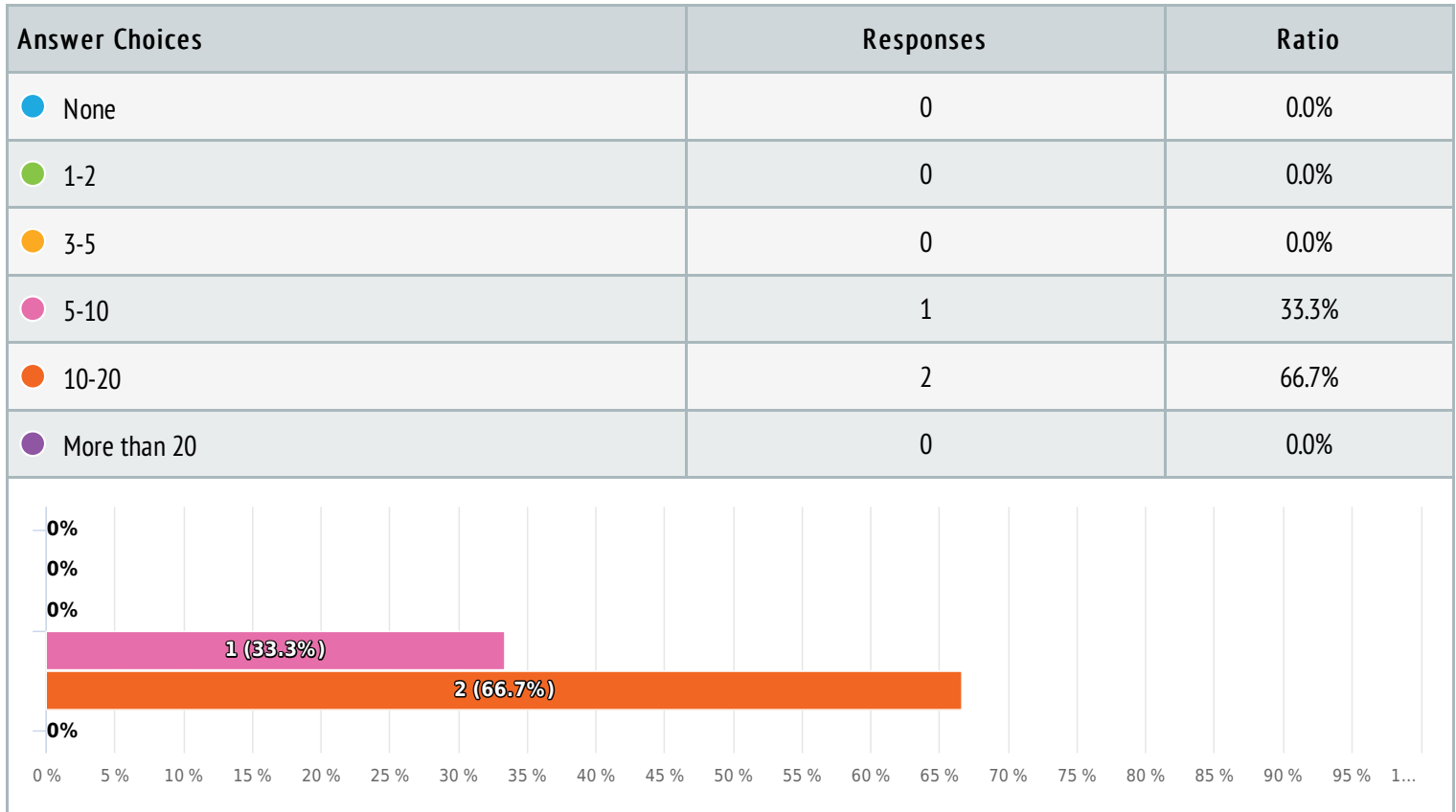
Matrix of single choices , answers 3 x, unanswered 0 x

Answer	None	Very little	Sizeable
IC design	2 (66.7%)	0	1 (33.3%)
FPGA design	0	3 (100.0%)	0
PCB design	1 (33.3%)	0	2 (66.7%)
(fibre) Optics	0	2 (66.7%)	1 (33.3%)
Analogue design	0	1 (33.3%)	2 (66.7%)
Other	1 (33.3%)	1 (33.3%)	0



9 How many engineers and technicians in electronics design?

Single choice , answers 3 x, unanswered 0 x



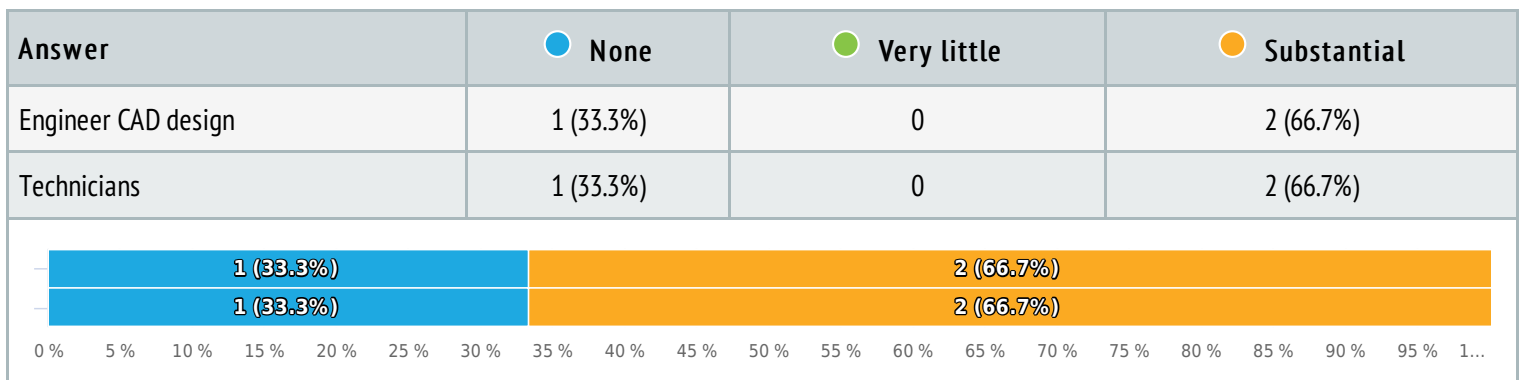
10 Comments on electronic activities

Text answer , answers 3 x, unanswered 0 x

- The above does not apply to personel in the Accelerator Division
- We have 4 experts on IC design. One particular expertise we have is on White Rabbit.
- we want less

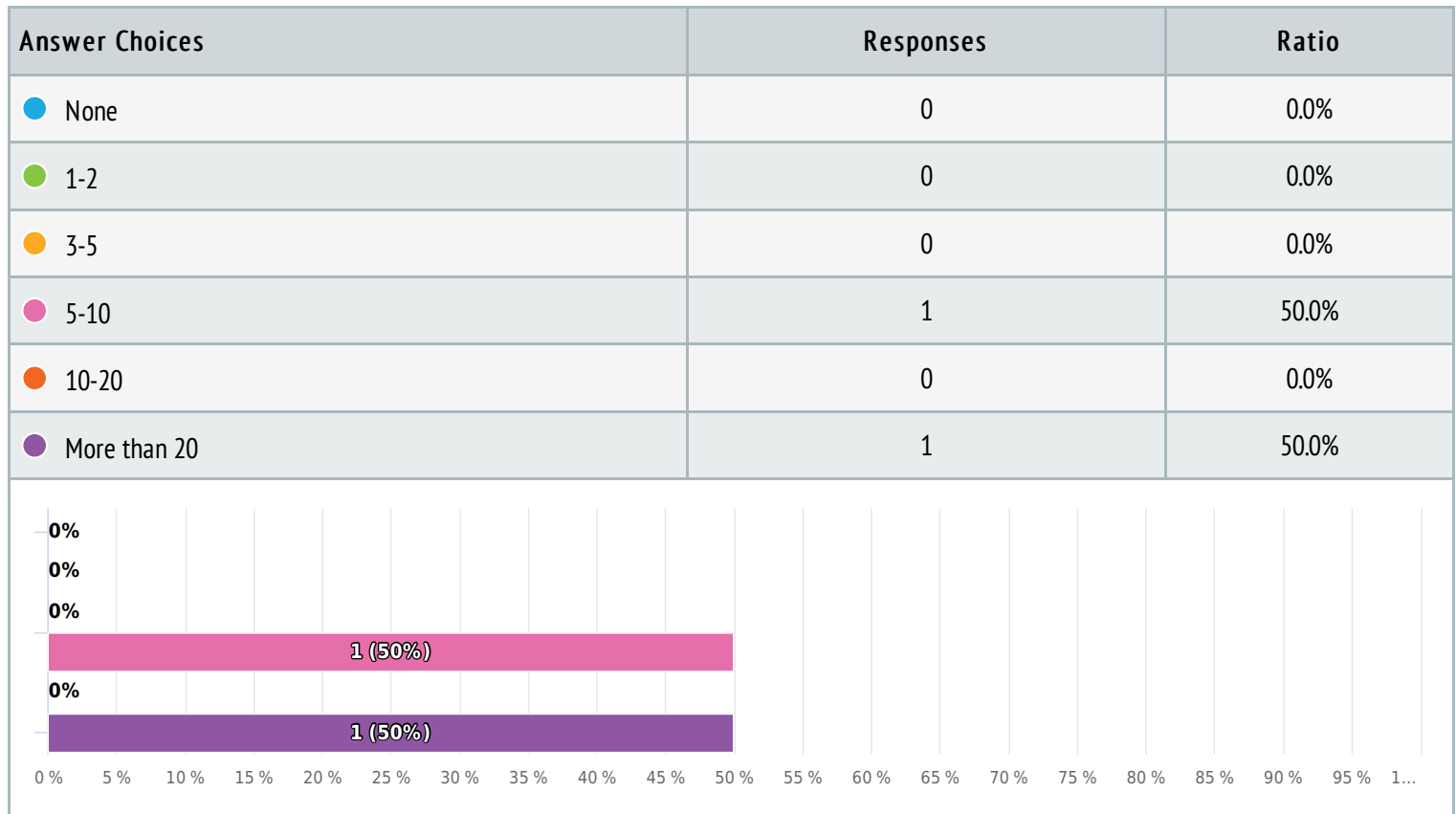
11 Mechanical technology support

Matrix of single choices , answers 3 x, unanswered 0 x



12 How many engineers and technicians in mechanical technology?

Single choice , answers 2 x, unanswered 1 x



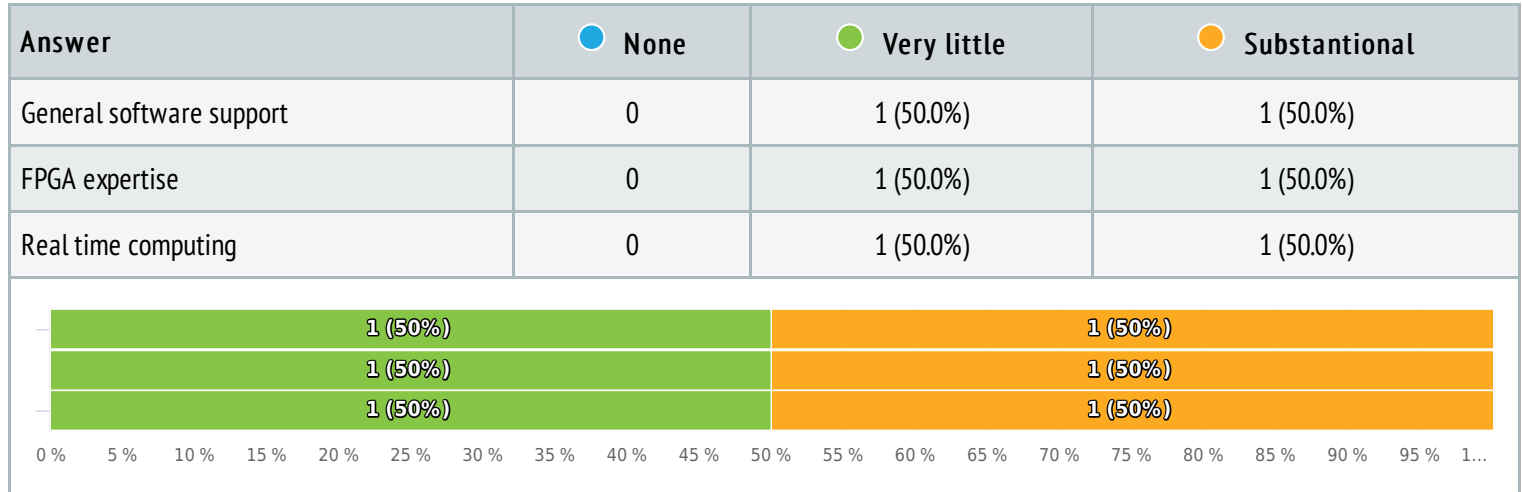
13 Comments on mechanical technology activities

Text answer , answers 2 x, unanswered 1 x

- Our ambition is to design and manufacture complete detector parts, e.g. LHCb SciFi, ATLAS ITk-endcap. We are currently also building the ETpathfinder.
- The above does not include personnel in the Accelerator Division

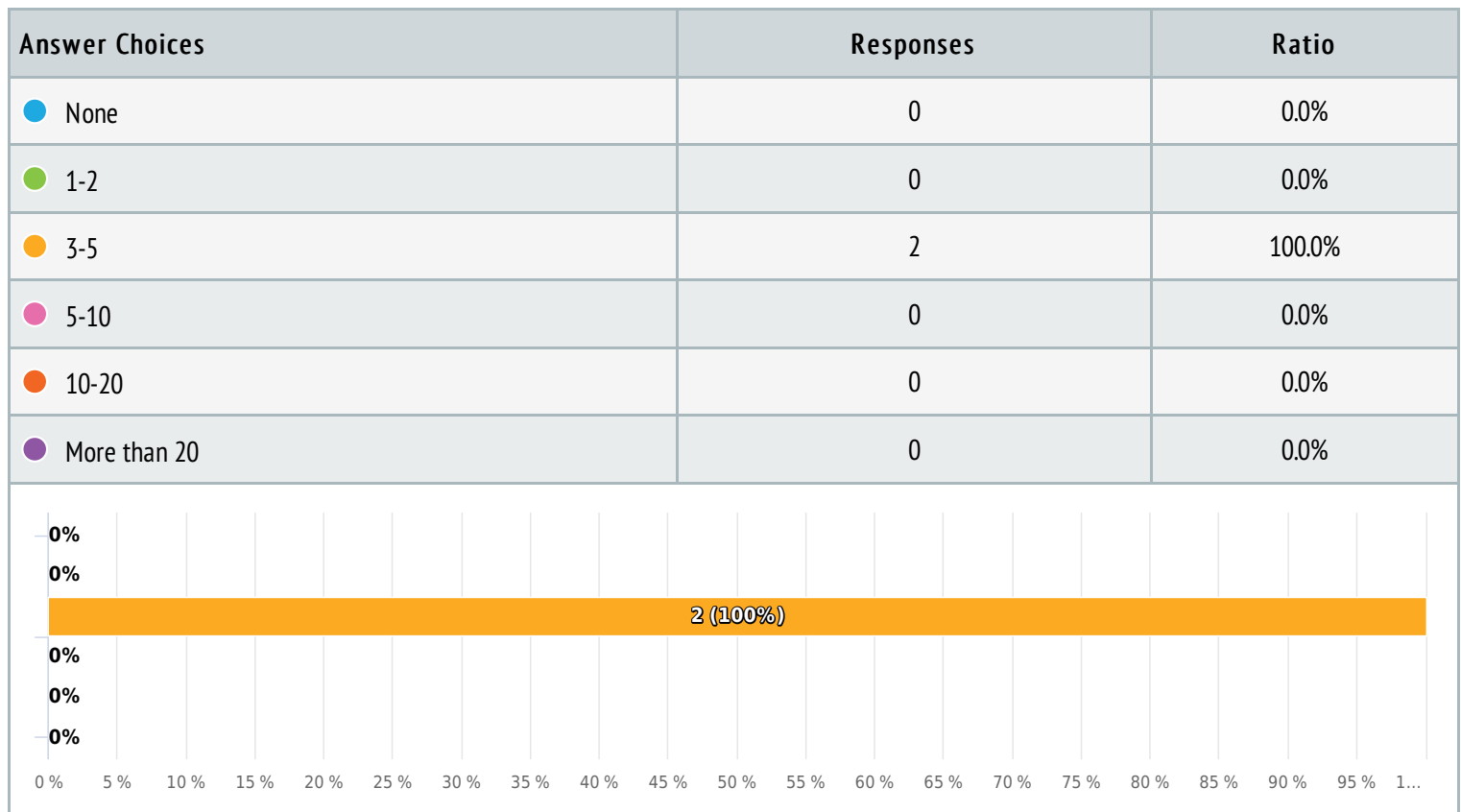
14 What is your support for detector software development?

Matrix of single choices , answers 2 x, unanswered 1 x



15 How many engineers and technicians in detector software development?

Single choice , answers 2 x, unanswered 1 x



16 Any feedback on the two questions on software?

Text answer , answers 2 x, unanswered 1 x



- Our computing support focus on analysis (GRID computing, middleware, security) and software engineering. This last group is relatively small.

Survey settings



Allow multiple submissions?



Allow return to previous questions?



Display question numbers?



Receive response notifications by e-mail?



Password protection?



IP restriction?

Appendix: Survey

LDG-ECFA Detector Infrastructure resources

Dear colleague,

Please take a few minutes of your time to complete
the following questionnaire.

The Detector R&D roadmap, part of the European Strategy for Particle Physics Update in 2021, is in the hands of ECFA. With the set-up of Detector R&D Collaborations (DRDC), organised along a number of relevant themes, the implementation of the roadmap is taking shape.

Typically the activities of the DRDC will reside in a (large) number of institutions and universities. In order to be successful, the Detector R&D Collaborations will need resources that national and regional laboratories may be able to provide.

To facilitate the implementation of the roadmap, a number of General Strategic Recommendations (GSR) are defined. The following are relevant for the (national) labs:

GSR 1 - Supporting R&D facilities

GSR 2 - Engineering support for detector R&D

GSR 3 - Specific software for instrumentation

GSR 5 - Distributed R&D activities with centralised facilities

GSR 9 - Industrial partnerships

This survey aims to create an inventory of the resources that reside in these labs. Once we have this overview, in a next step we like to take the 'nexus role' and try to connect these resources with the requests of the DRDC's.

Please note that we do not wish to allocate resources of the labs in any way. This survey is to gather information only.

With this effort we plan to optimize the Detector R&D efforts and potentially provide new opportunities to the (national) labs to acquire funding for these activities.

1 Identify your lab or institute

Question instructions: *Provide the name and address*

2 Contact person

Question instructions: *Provide name, email and phone of the contact person*

Testbeam and irradiation facilities

3 Which facilities does your lab contain?

Question instructions: *Select one answer in each row*

	Not at all	Limited/future plans	Yes
Testbeam facilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Irradiation facilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4 Provide technical details for your testbeam facilities

Question instructions: *Skip this question when not relevant*

5 Provide technical details for your irradiation facility

Question instructions: *Skip this question when not relevant*

6 Does your lab contain test set-up for characterisation and test-bench measurements?

Question instructions: *Select one or more answers*

- | | | | | |
|--|---|--|--|---|
| <input type="checkbox"/> Nothing at all | <input type="checkbox"/> Detector Characterisation Laboratory | <input type="checkbox"/> Manufacturing and Production Workshop | <input type="checkbox"/> Assembly Facilities | <input type="checkbox"/> Clean rooms |
| <input type="checkbox"/> Gas system design and production | <input type="checkbox"/> Mechanical workshop | <input type="checkbox"/> Electronic workshop | <input type="checkbox"/> Analysis Laboratory | <input type="checkbox"/> Metrology Laboratory |
| <input type="checkbox"/> Radioactive Sources (active, passive) | <input type="checkbox"/> Data acquisition systems | <input type="checkbox"/> TCT, 2PA-TCT facilities | <input type="checkbox"/> Other | |

7 Please detail on the question above when necessary

8 Electronic engineering and design - support

Question instructions: *What expertise does your lab have*

None

Very little

Sizeable

IC design	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
FPGA design	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
PCB design	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(fibre) Optics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Analogue design	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

9 How many engineers and technicians in electronics design?

Question instructions: *Select one answer*

- None
 1-2
 3-5
 5-10
 10-20
 More than 20

10 Comments on electronic activities

11 Mechanical technology support

Question instructions: *Select one answer in each row*

	None	Very little	Substantial
Engineer CAD design	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Technicians	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

12 How many engineers and technicians in mechanical technology?

Question instructions: *Select one answer*

- None
 1-2
 3-5
 5-10
 10-20
 More than 20

13 Comments on mechanical technology activities

14 What is your support for detector software development?

Question instructions: *Select one answer in each row*

	None	Very little	Substantial
General software support	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
FPGA expertise	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Real time computing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

15 How many engineers and technicians in detector software development?

Question instructions: *Select one answer*

- None
 1-2
 3-5
 5-10
 10-20
 More than 20

16 Any feedback on the two questions on software?