Résultats

Questionnaire 634687

Nombre d'enregistrement(s) pour cette requête :	79
Nombre total d'enregistrements pour ce questionnaire :	79
Pourcentage du total :	100.00%

Résumé pour A15

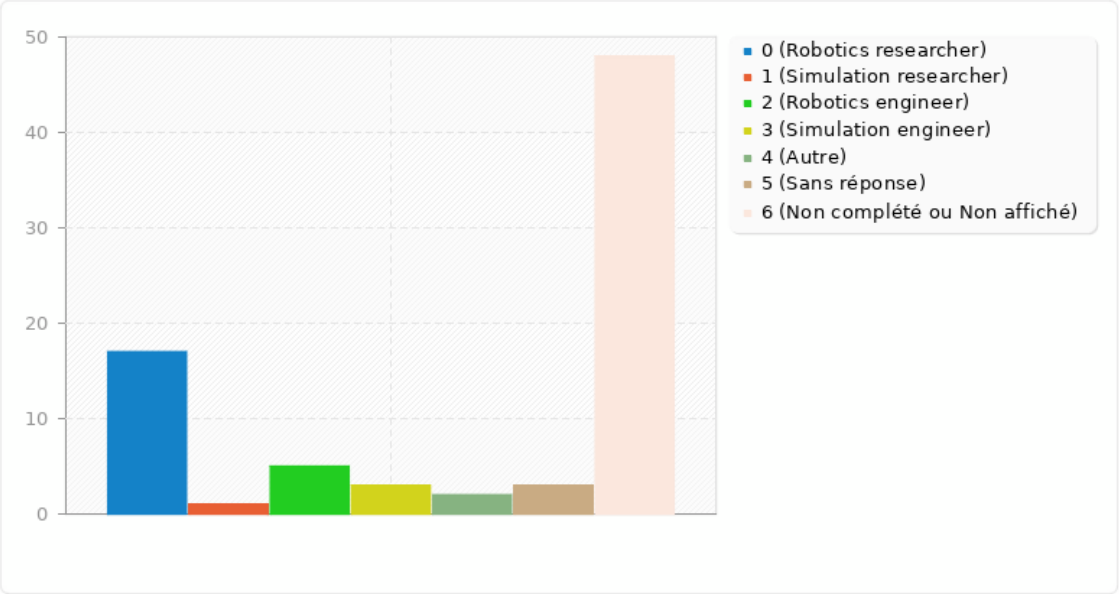
What is your role in the team ?

Réponse	Décompte	Pourcentage
Robotics researcher (A1)	17	21.52%
Simulation researcher (A4)	1	1.27%
Robotics engineer (A2)	5	6.33%
Simulation engineer (A3)	3	3.80%
Autre	2	2.53%
Sans réponse	3	3.80%
Non complété ou Non affiché	48	60.76%

Identifiant (ID)	Réponse
57	educator
81	ML and Perception Engineer

Résumé pour A15

What is your role in the team ?



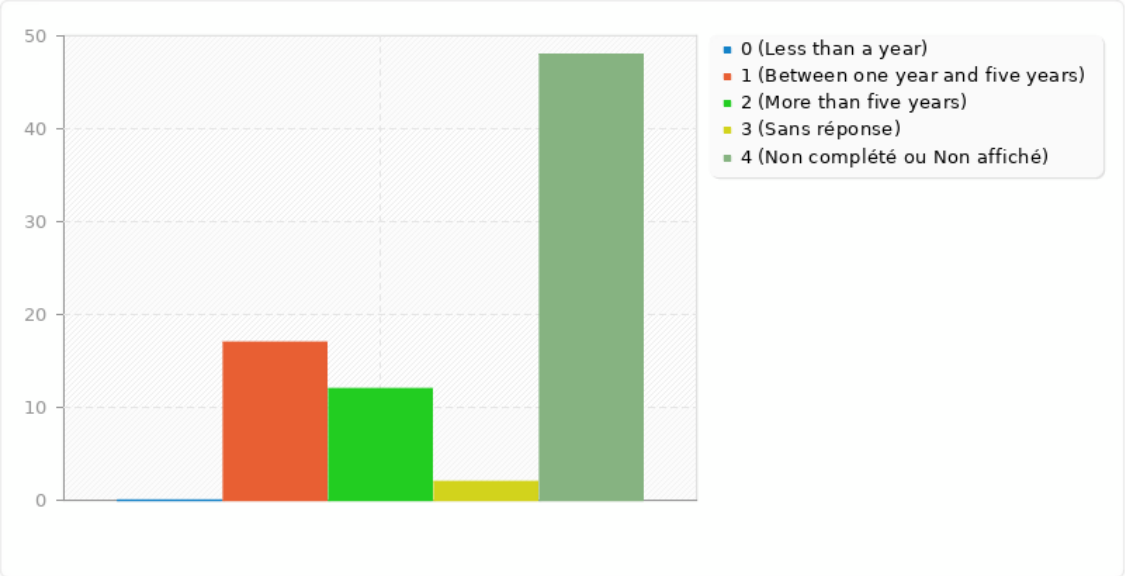
Résumé pour A4

For how long have you been using simulation tools?

Réponse	Décompte	Pourcentage
Less than a year (A1)	0	0.00%
Between one year and five years (A2)	17	21.52%
More than five years (A3)	12	15.19%
Sans réponse	2	2.53%
Non complété ou Non affiché	48	60.76%

Résumé pour A4

For how long have you been using simulation tools?



Résumé pour A9

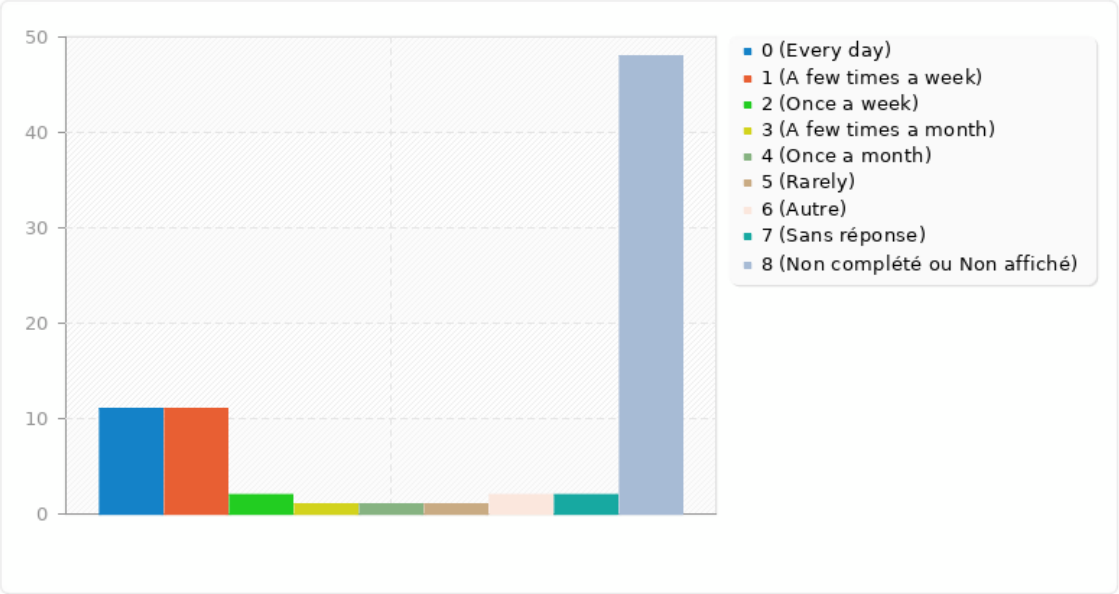
How often do you use simulators for robotics?

Réponse	Décompte	Pourcentage
Every day (A1)	11	13.92%
A few times a week (A2)	11	13.92%
Once a week (A3)	2	2.53%
A few times a month (A4)	1	1.27%
Once a month (A5)	1	1.27%
Rarely (A6)	1	1.27%
Autre	2	2.53%
Sans réponse	2	2.53%
Non complété ou Non affiché	48	60.76%

Identifiant (ID)	Réponse
57	As needed
64	Depends on the current project

Résumé pour A9

How often do you use simulators for robotics?



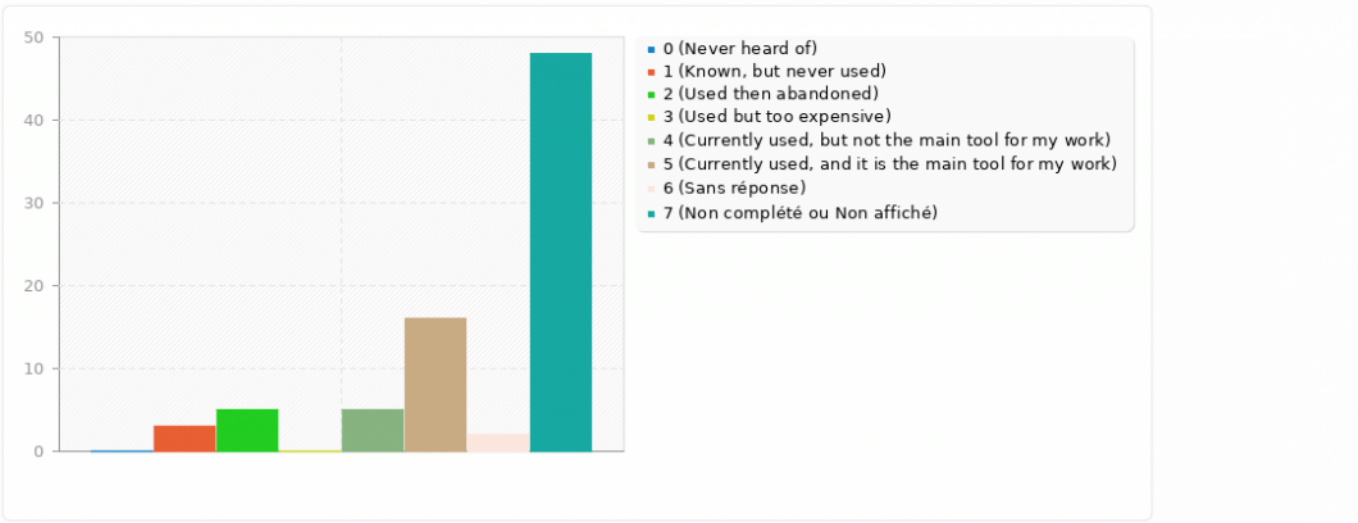
Résumé pour A1(SQ001)[Gazebo]

Please indicate below your use of the following simulation tools.

Réponse	Décompte	Pourcentage
Never heard of (A1)	0	0.00%
Known, but never used (A2)	3	3.80%
Used then abandoned (A3)	5	6.33%
Used but too expensive (A4)	0	0.00%
Currently used, but not the main tool for my work (A7)	5	6.33%
Currently used, and it is the main tool for my work (A8)	16	20.25%
Sans réponse	2	2.53%
Non complété ou Non affiché	48	60.76%

Résumé pour A1(SQ001)[Gazebo]

Please indicate below your use of the following simulation tools.



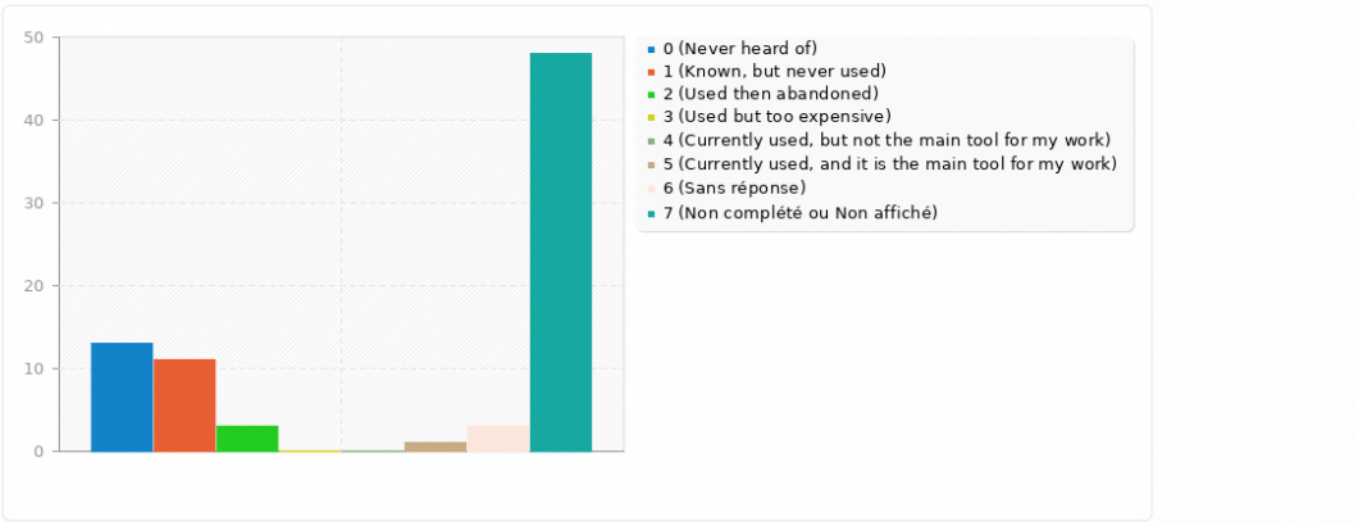
Résumé pour A1(SQ002)[Webots]

Please indicate below your use of the following simulation tools.

Réponse	Décompte	Pourcentage
Never heard of (A1)	13	16.46%
Known, but never used (A2)	11	13.92%
Used then abandoned (A3)	3	3.80%
Used but too expensive (A4)	0	0.00%
Currently used, but not the main tool for my work (A7)	0	0.00%
Currently used, and it is the main tool for my work (A8)	1	1.27%
Sans réponse	3	3.80%
Non complété ou Non affiché	48	60.76%

Résumé pour A1(SQ002)[Webots]

Please indicate below your use of the following simulation tools.



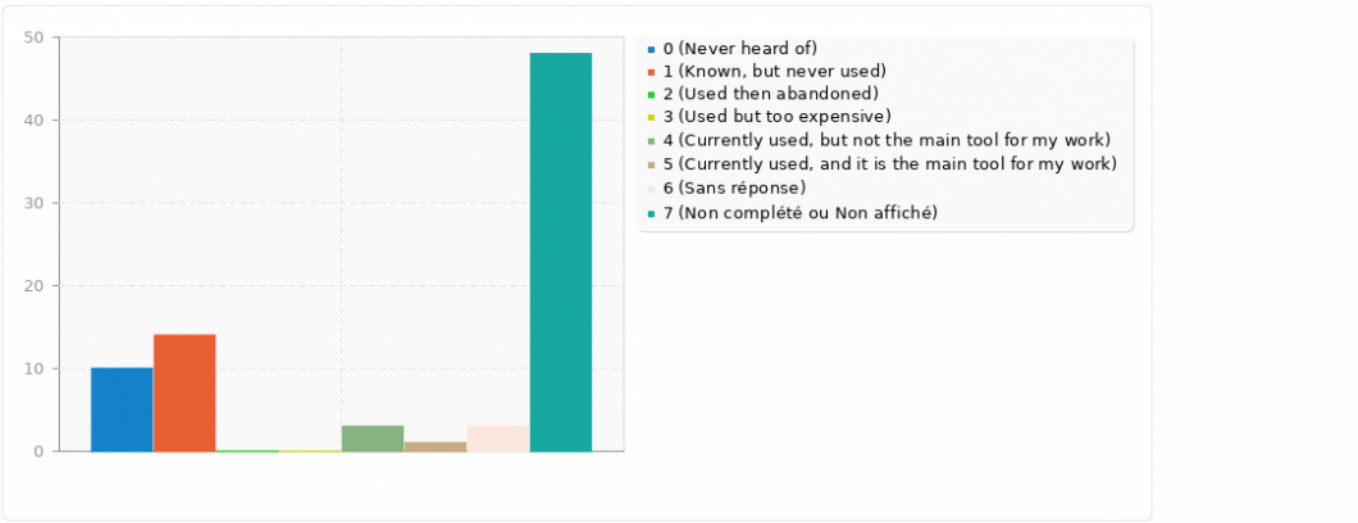
Résumé pour A1(SQ003)[Ignition Gazebo]

Please indicate below your use of the following simulation tools.

Réponse	Décompte	Pourcentage
Never heard of (A1)	10	12.66%
Known, but never used (A2)	14	17.72%
Used then abandoned (A3)	0	0.00%
Used but too expensive (A4)	0	0.00%
Currently used, but not the main tool for my work (A7)	3	3.80%
Currently used, and it is the main tool for my work (A8)	1	1.27%
Sans réponse	3	3.80%
Non complété ou Non affiché	48	60.76%

Résumé pour A1(SQ003)[Ignition Gazebo]

Please indicate below your use of the following simulation tools.



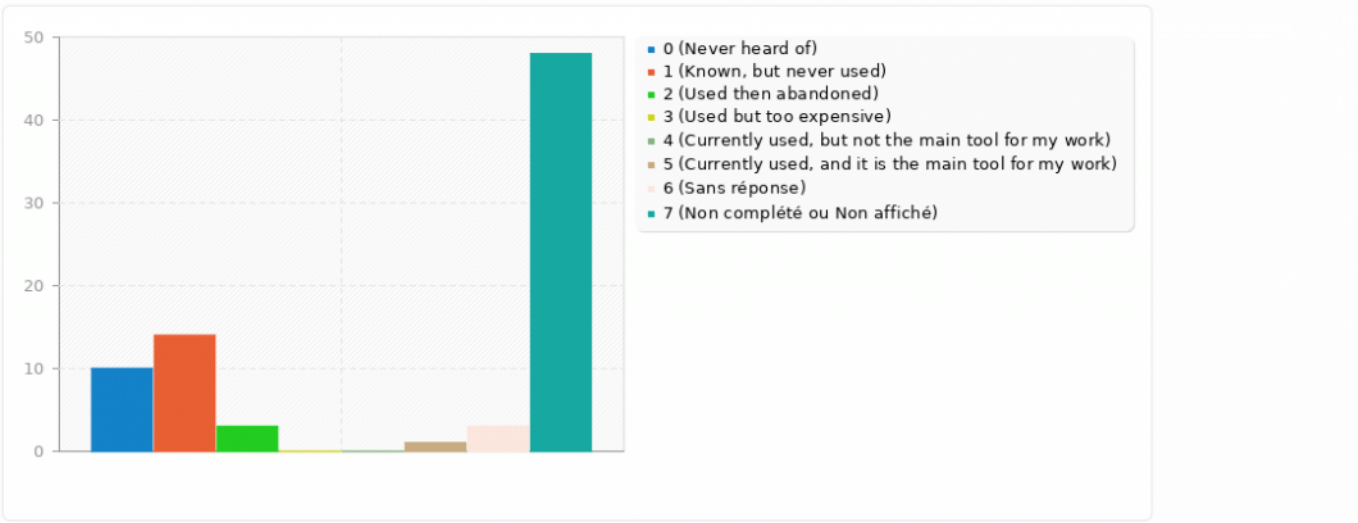
Résumé pour A1(SQ010)[CARLA]

Please indicate below your use of the following simulation tools.

Réponse	Décompte	Pourcentage
Never heard of (A1)	10	12.66%
Known, but never used (A2)	14	17.72%
Used then abandoned (A3)	3	3.80%
Used but too expensive (A4)	0	0.00%
Currently used, but not the main tool for my work (A7)	0	0.00%
Currently used, and it is the main tool for my work (A8)	1	1.27%
Sans réponse	3	3.80%
Non complété ou Non affiché	48	60.76%

Résumé pour A1(SQ010)[CARLA]

Please indicate below your use of the following simulation tools.



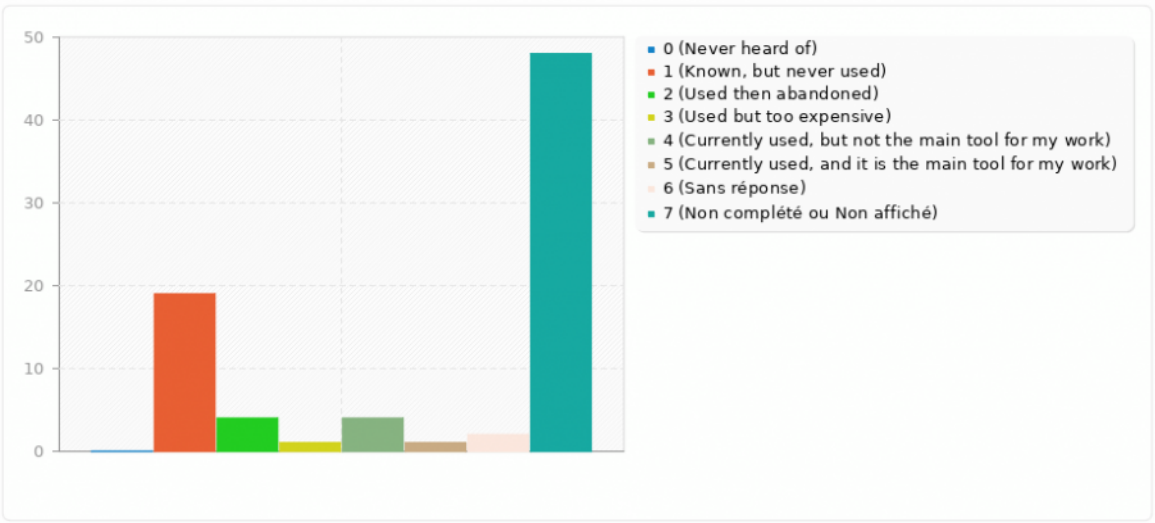
Résumé pour A1(SQ009)[Unity]

Please indicate below your use of the following simulation tools.

Réponse	Décompte	Pourcentage
Never heard of (A1)	0	0.00%
Known, but never used (A2)	19	24.05%
Used then abandoned (A3)	4	5.06%
Used but too expensive (A4)	1	1.27%
Currently used, but not the main tool for my work (A7)	4	5.06%
Currently used, and it is the main tool for my work (A8)	1	1.27%
Sans réponse	2	2.53%
Non complété ou Non affiché	48	60.76%

Résumé pour A1(SQ009)[Unity]

Please indicate below your use of the following simulation tools.



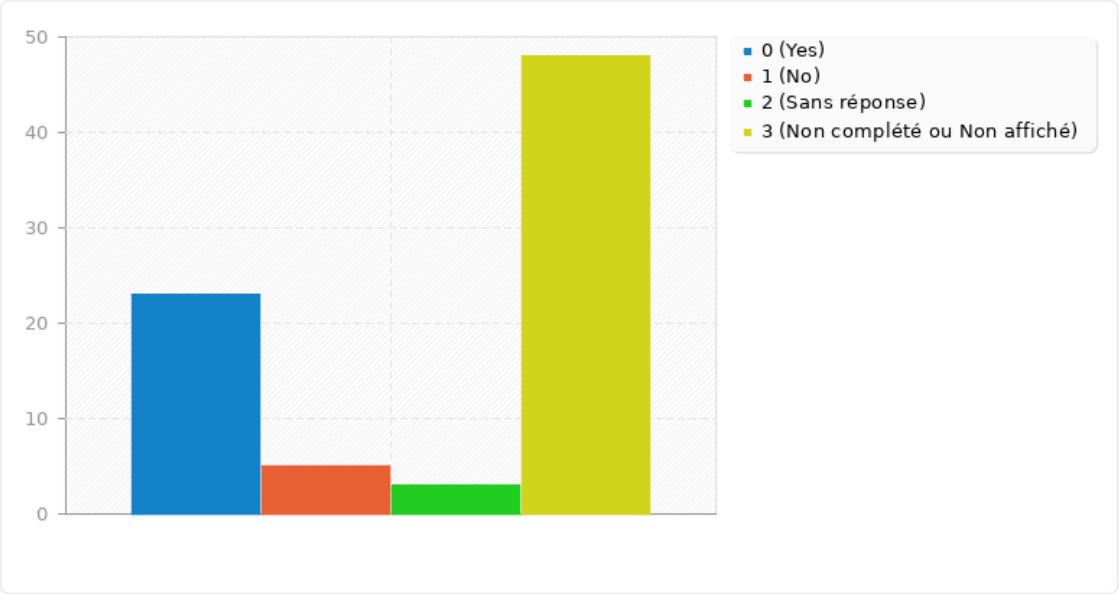
Résumé pour A2

Do you know other simulation tools that were not listed above?

Réponse	Décompte	Pourcentage
Yes (A1)	23	29.11%
No (A2)	5	6.33%
Sans réponse	3	3.80%
Non complété ou Non affiché	48	60.76%

Résumé pour A2

Do you know other simulation tools that were not listed above?



Résumé pour A3

If yes, please write their names below. Please indicate if you used them, are using them, are planning on using them or if you have simply heard of them. Please indicate if it is your main simulation tool at the moment.

Réponse	Décompte	Pourcentage
Réponse	20	25.32%
Sans réponse	11	13.92%
Non complété ou Non affiché	48	60.76%

Identifiant (ID)	Réponse
3	Unreal Engine w/ AirSim, Gazebo w/ UUVSim
6	mujoco
7	V-REP, Unreal Engine, Matlab, Simulink
9	PyBullet, MuJoCo, SOFA
10	uwsim (main tool); uuvsimulator (starting to test it), v-rep (used then abandoned, due to license), FreeCAD has a robot manipulator simulation plugin (I have only tested it briefly, not using it at the moment)
21	MujoCo, PyBullet, Airsim, Carsim, Project Chrono
22	Airsim,
24	CoppeliaSim, I've used but not currently. uwsim, I've used but not currently.
31	pybullet
36	So many... No plan to use them.
39	V-REP (now Coppelia Sim) - for some projects ; Matlab/Simulink - never used
47	VRep
51	Mujoco. Used a bit for a project that needed contacts.
57	V-Rep
62	VREP
65	SCRIMMAGE (main tool), MORSE (just heard of)
67	Vortex : main simulation tool / Proteus : under trial
68	UWSim, Vortex, V-REP, Morse, Unreal Engine, Neutrino (Main tool)
73	Fossen's MSS
83	V-Rep, DAVE

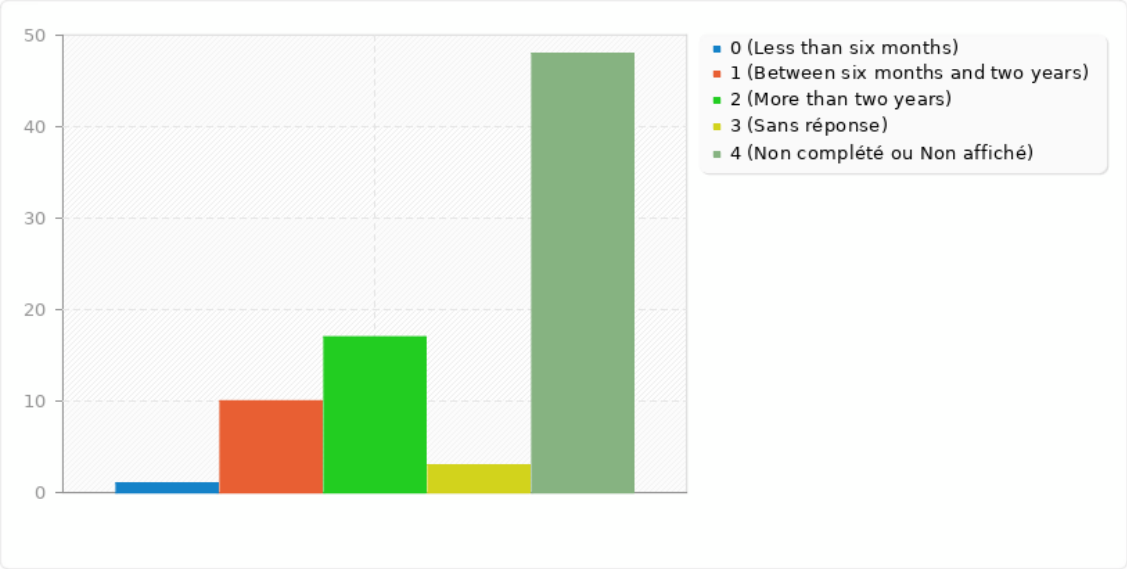
Résumé pour A5

How long have you been using your current simulation tool ?

Réponse	Décompte	Pourcentage
Less than six months (A1)	1	1.27%
Between six months and two years (A2)	10	12.66%
More than two years (A3)	17	21.52%
Sans réponse	3	3.80%
Non complété ou Non affiché	48	60.76%

Résumé pour A5

How long have you been using your current simulation tool ?



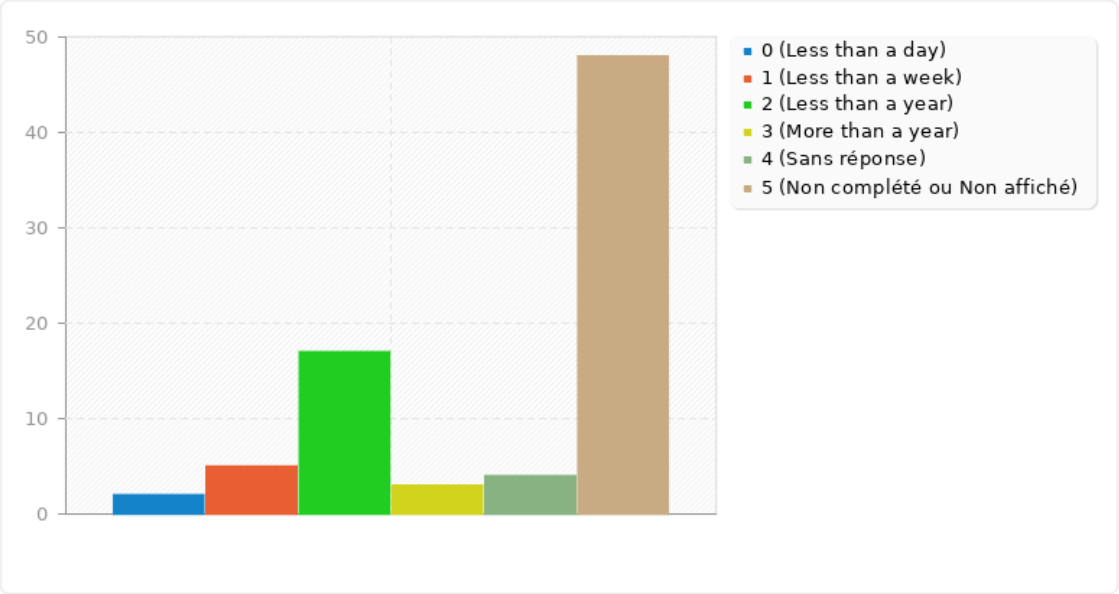
Résumé pour A6

How long did it take you to feel you could use easily the simulation tool you are currently using?

Réponse	Décompte	Pourcentage
Less than a day (A1)	2	2.53%
Less than a week (A2)	5	6.33%
Less than a year (A3)	17	21.52%
More than a year (A4)	3	3.80%
Sans réponse	4	5.06%
Non complété ou Non affiché	48	60.76%

Résumé pour A6

How long did it take you to feel you could use easily the simulation tool you are currently using?



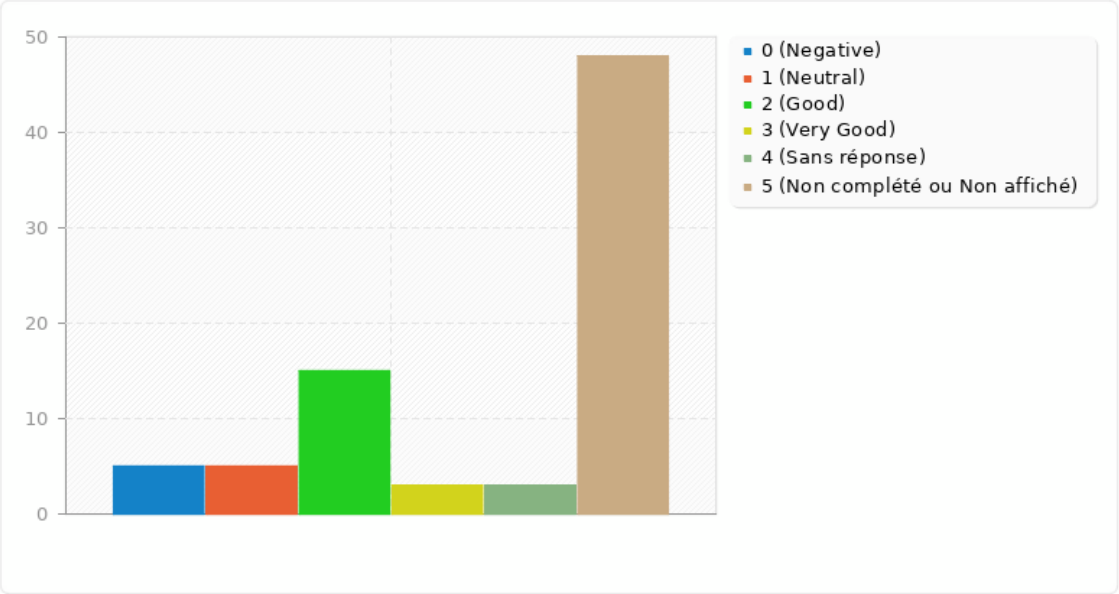
Résumé pour A7(SQ002)[Visual rendering]

Concerning the main simulator for your work, what is your general level of satisfaction regarding the technical criteria ...

Réponse	Décompte	Pourcentage
Negative (A2)	5	6.33%
Neutral (A3)	5	6.33%
Good (A4)	15	18.99%
Very Good (A5)	3	3.80%
Sans réponse	3	3.80%
Non complété ou Non affiché	48	60.76%

Résumé pour A7(SQ002)[Visual rendering]

Concerning the main simulator for your work, what is your general level of satisfaction regarding the technical criteria ...



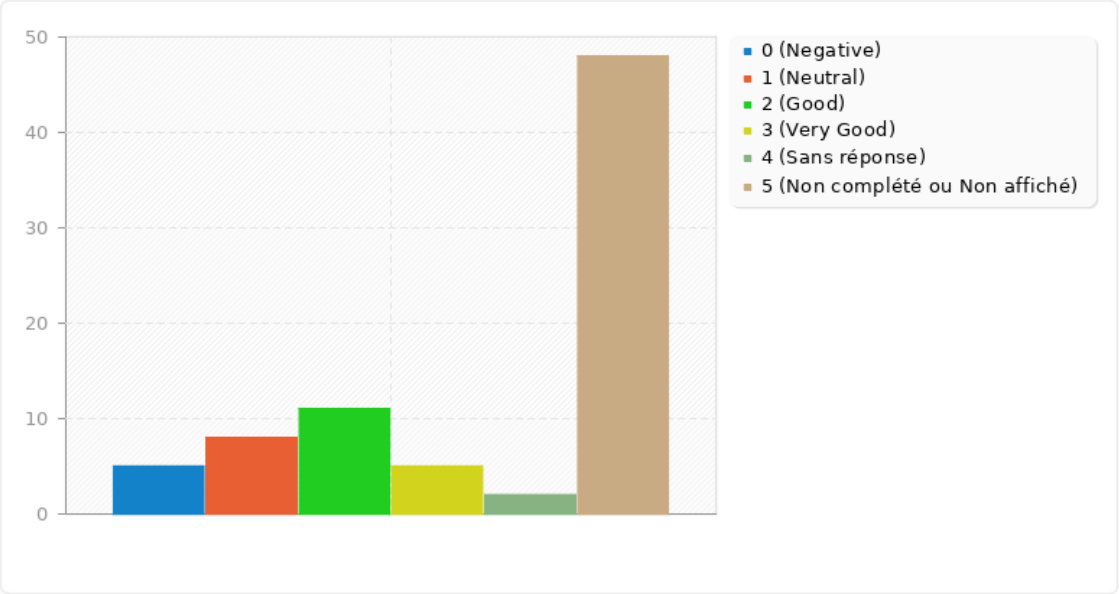
Résumé pour A7(SQ004)[Physical fidelity of simulation]

Concerning the main simulator for your work, what is your general level of satisfaction regarding the technical criteria ...

Réponse	Décompte	Pourcentage
Negative (A2)	5	6.33%
Neutral (A3)	8	10.13%
Good (A4)	11	13.92%
Very Good (A5)	5	6.33%
Sans réponse	2	2.53%
Non complété ou Non affiché	48	60.76%

Résumé pour A7(SQ004)[Physical fidelity of simulation]

Concerning the main simulator for your work, what is your general level of satisfaction regarding the technical criteria ...



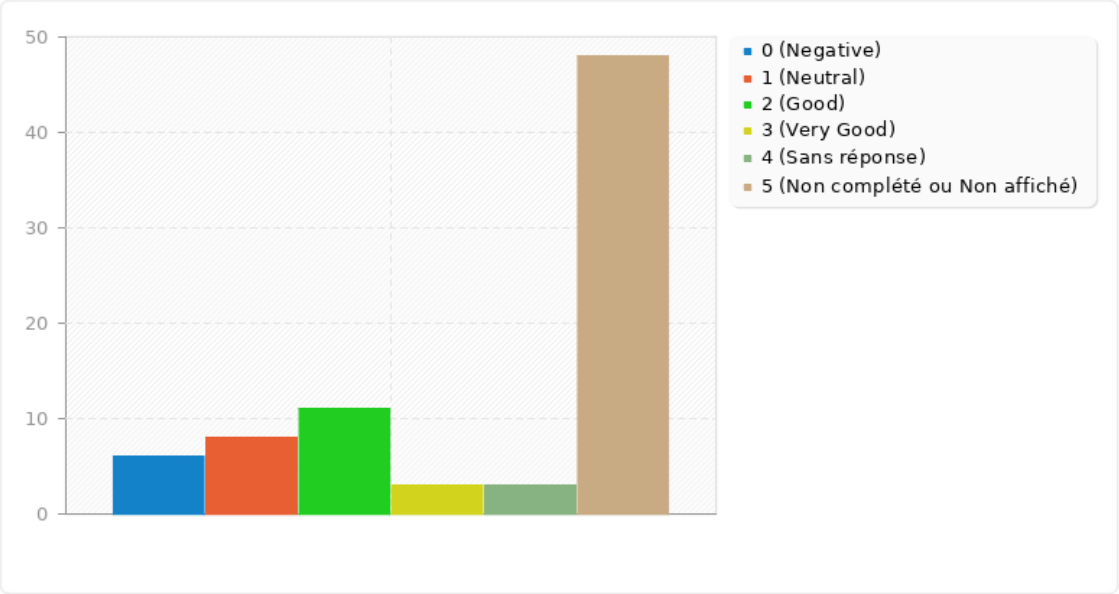
Résumé pour A7(SQ005)[Computational load]

Concerning the main simulator for your work, what is your general level of satisfaction regarding the technical criteria ...

Réponse	Décompte	Pourcentage
Negative (A2)	6	7.59%
Neutral (A3)	8	10.13%
Good (A4)	11	13.92%
Very Good (A5)	3	3.80%
Sans réponse	3	3.80%
Non complété ou Non affiché	48	60.76%

Résumé pour A7(SQ005)[Computational load]

Concerning the main simulator for your work, what is your general level of satisfaction regarding the technical criteria ...



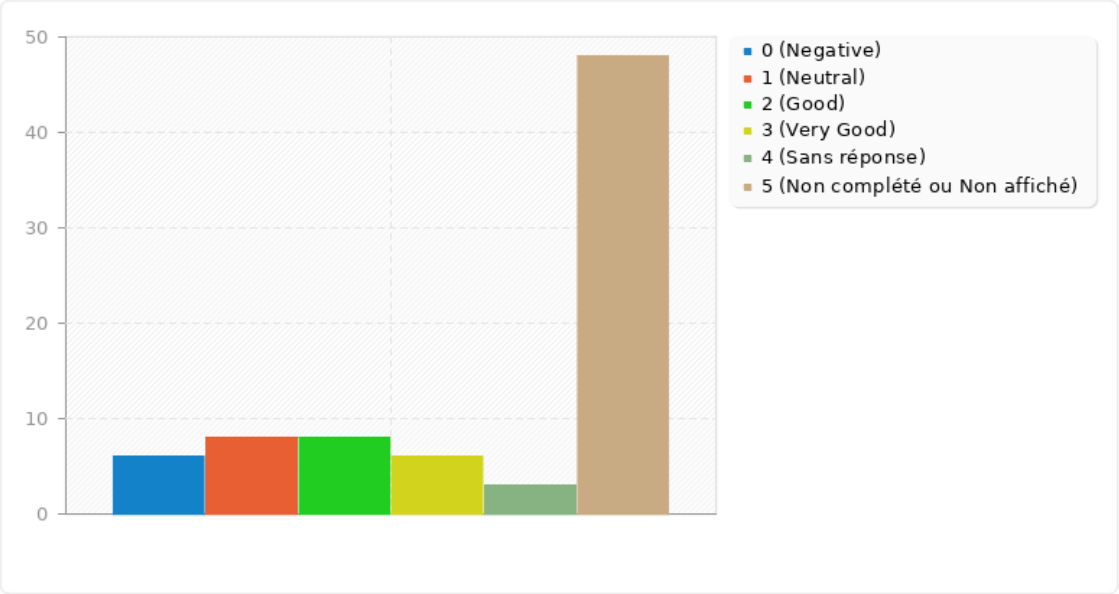
Résumé pour A7(SQ007)[Stability of the simulation]

Concerning the main simulator for your work, what is your general level of satisfaction regarding the technical criteria ...

Réponse	Décompte	Pourcentage
Negative (A2)	6	7.59%
Neutral (A3)	8	10.13%
Good (A4)	8	10.13%
Very Good (A5)	6	7.59%
Sans réponse	3	3.80%
Non complété ou Non affiché	48	60.76%

Résumé pour A7(SQ007)[Stability of the simulation]

Concerning the main simulator for your work, what is your general level of satisfaction regarding the technical criteria ...



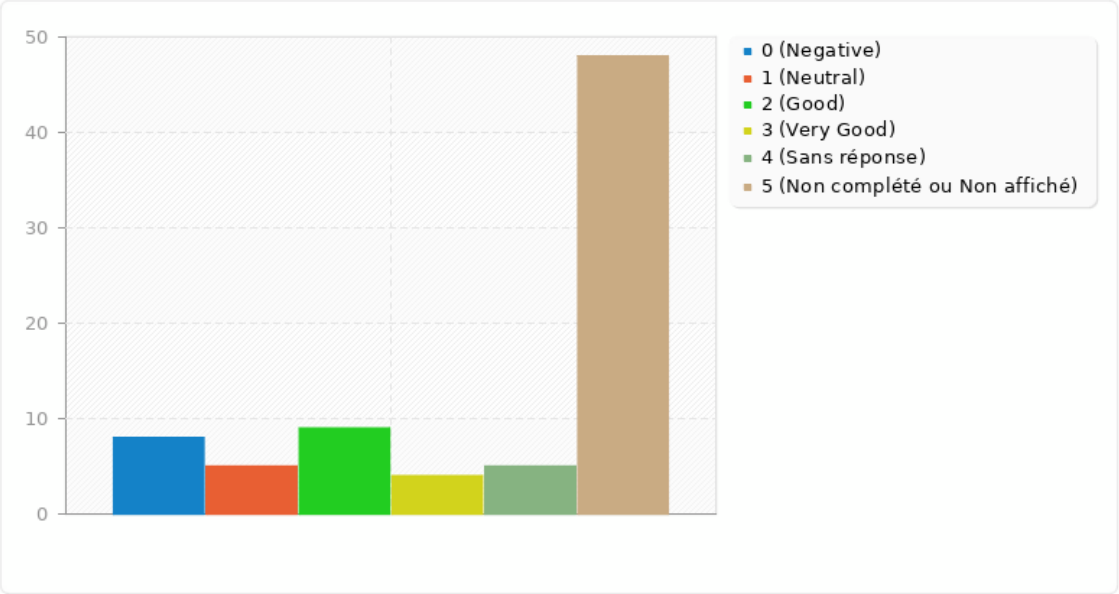
Résumé pour A7(SQ009)[Simulate faster than real time]

Concerning the main simulator for your work, what is your general level of satisfaction regarding the technical criteria ...

Réponse	Décompte	Pourcentage
Negative (A2)	8	10.13%
Neutral (A3)	5	6.33%
Good (A4)	9	11.39%
Very Good (A5)	4	5.06%
Sans réponse	5	6.33%
Non complété ou Non affiché	48	60.76%

Résumé pour A7(SQ009)[Simulate faster than real time]

Concerning the main simulator for your work, what is your general level of satisfaction regarding the technical criteria ...



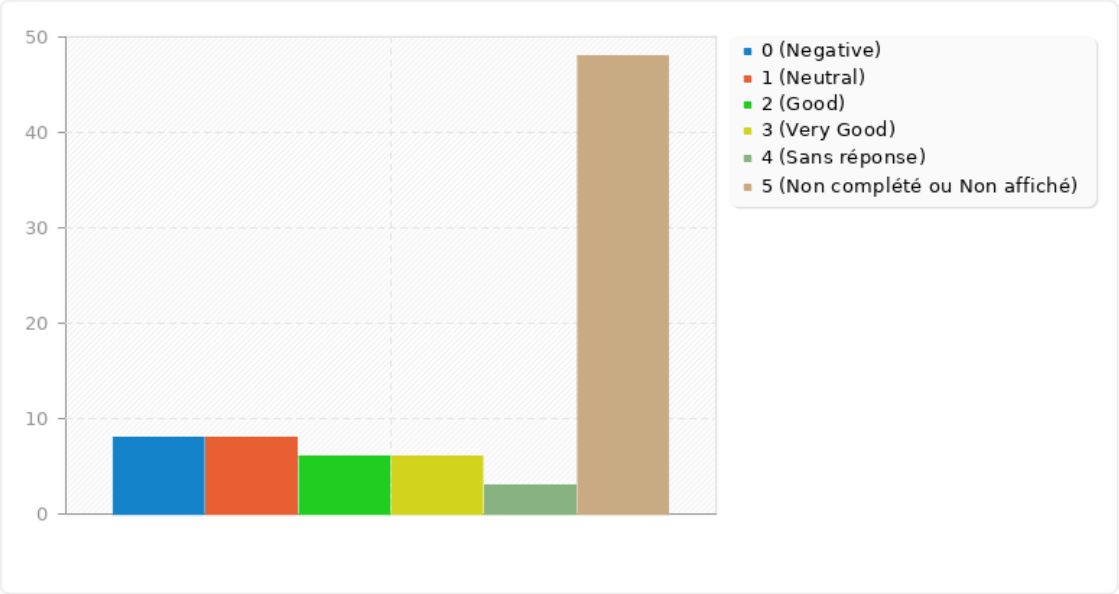
Résumé pour A7(SQ008)[Debugging tools]

Concerning the main simulator for your work, what is your general level of satisfaction regarding the technical criteria ...

Réponse	Décompte	Pourcentage
Negative (A2)	8	10.13%
Neutral (A3)	8	10.13%
Good (A4)	6	7.59%
Very Good (A5)	6	7.59%
Sans réponse	3	3.80%
Non complété ou Non affiché	48	60.76%

Résumé pour A7(SQ008)[Debugging tools]

Concerning the main simulator for your work, what is your general level of satisfaction regarding the technical criteria ...



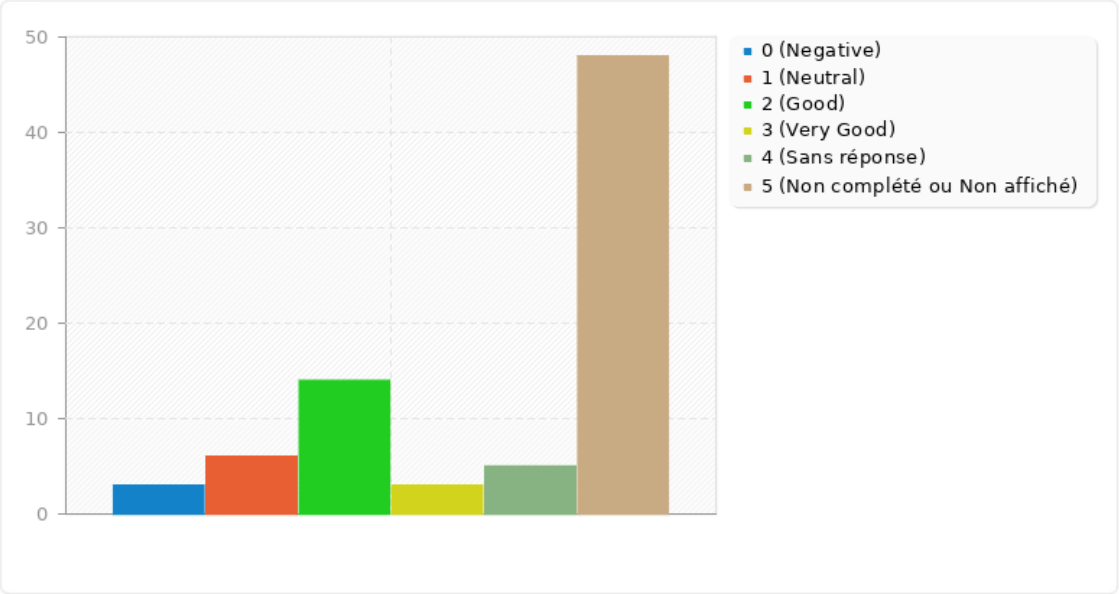
Résumé pour A7(SQ011)[Availability of assets]

Concerning the main simulator for your work, what is your general level of satisfaction regarding the technical criteria ...

Réponse	Décompte	Pourcentage
Negative (A2)	3	3.80%
Neutral (A3)	6	7.59%
Good (A4)	14	17.72%
Very Good (A5)	3	3.80%
Sans réponse	5	6.33%
Non complété ou Non affiché	48	60.76%

Résumé pour A7(SQ011)[Availability of assets]

Concerning the main simulator for your work, what is your general level of satisfaction regarding the technical criteria ...



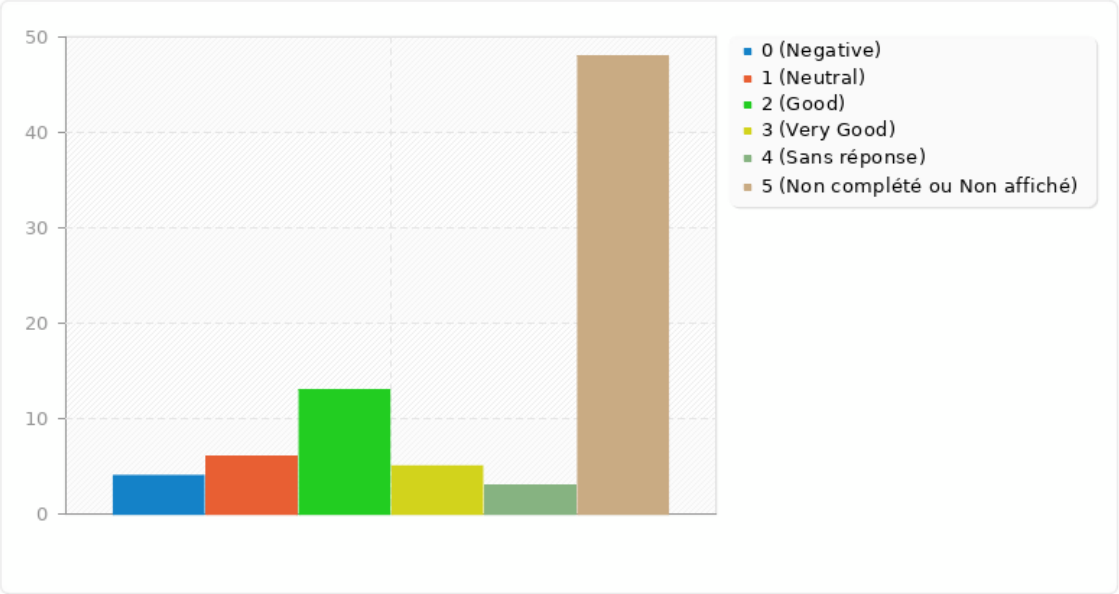
Résumé pour A7(SQ012)[Availability of models]

Concerning the main simulator for your work, what is your general level of satisfaction regarding the technical criteria ...

Réponse	Décompte	Pourcentage
Negative (A2)	4	5.06%
Neutral (A3)	6	7.59%
Good (A4)	13	16.46%
Very Good (A5)	5	6.33%
Sans réponse	3	3.80%
Non complété ou Non affiché	48	60.76%

Résumé pour A7(SQ012)[Availability of models]

Concerning the main simulator for your work, what is your general level of satisfaction regarding the technical criteria ...



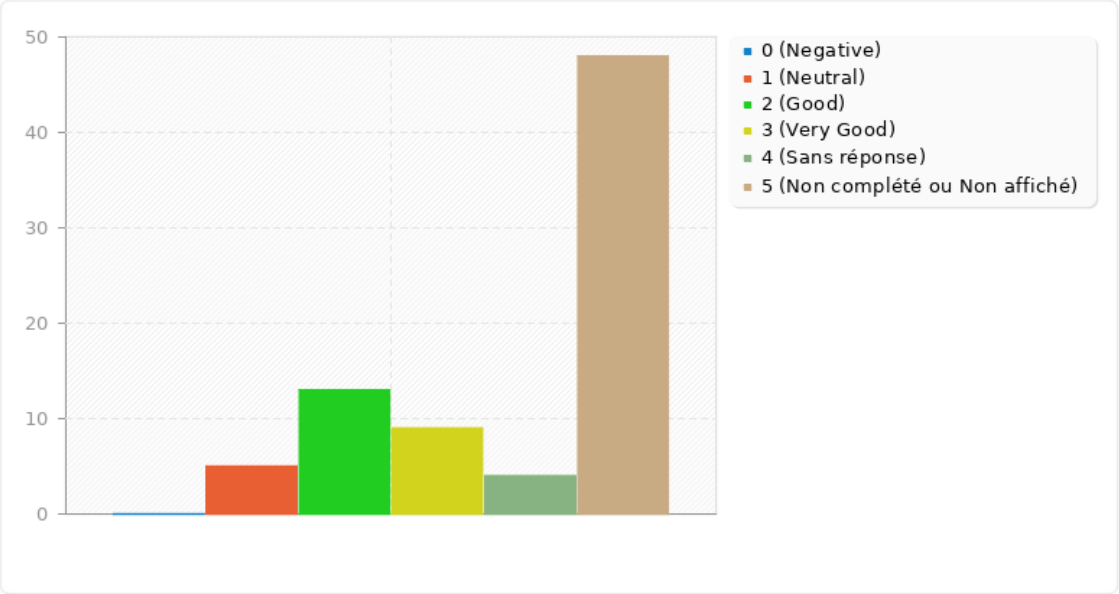
Résumé pour A7(SQ013)[The existing functionalities/features]

Concerning the main simulator for your work, what is your general level of satisfaction regarding the technical criteria ...

Réponse	Décompte	Pourcentage
Negative (A2)	0	0.00%
Neutral (A3)	5	6.33%
Good (A4)	13	16.46%
Very Good (A5)	9	11.39%
Sans réponse	4	5.06%
Non complété ou Non affiché	48	60.76%

Résumé pour A7(SQ013)[The existing functionalities/features]

Concerning the main simulator for your work, what is your general level of satisfaction regarding the technical criteria ...



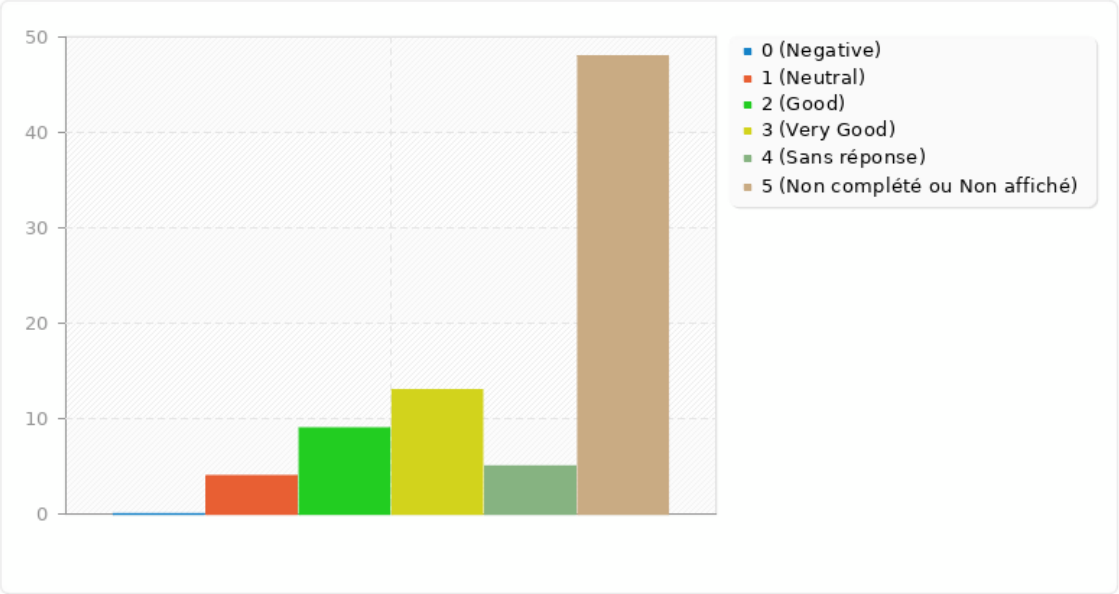
Résumé pour A7(SQ014)[Possibilities to customize/extend the tool]

Concerning the main simulator for your work, what is your general level of satisfaction regarding the technical criteria ...

Réponse	Décompte	Pourcentage
Negative (A2)	0	0.00%
Neutral (A3)	4	5.06%
Good (A4)	9	11.39%
Very Good (A5)	13	16.46%
Sans réponse	5	6.33%
Non complété ou Non affiché	48	60.76%

Résumé pour A7(SQ014)[Possibilities to customize/extend the tool]

Concerning the main simulator for your work, what is your general level of satisfaction regarding the technical criteria ...



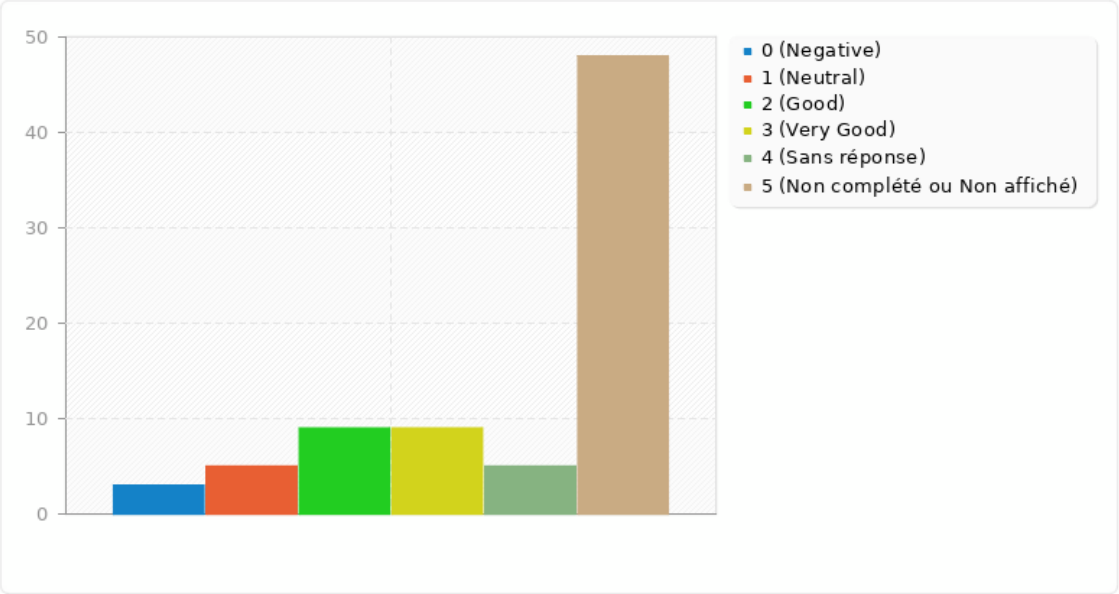
Résumé pour A7(SQ015)[Sim-to-real (same code for both real and simulated robot)]

Concerning the main simulator for your work, what is your general level of satisfaction regarding the technical criteria ...

Réponse	Décompte	Pourcentage
Negative (A2)	3	3.80%
Neutral (A3)	5	6.33%
Good (A4)	9	11.39%
Very Good (A5)	9	11.39%
Sans réponse	5	6.33%
Non complété ou Non affiché	48	60.76%

Résumé pour A7(SQ015)[Sim-to-real (same code for both real and simulated robot)]

Concerning the main simulator for your work, what is your general level of satisfaction regarding the technical criteria ...



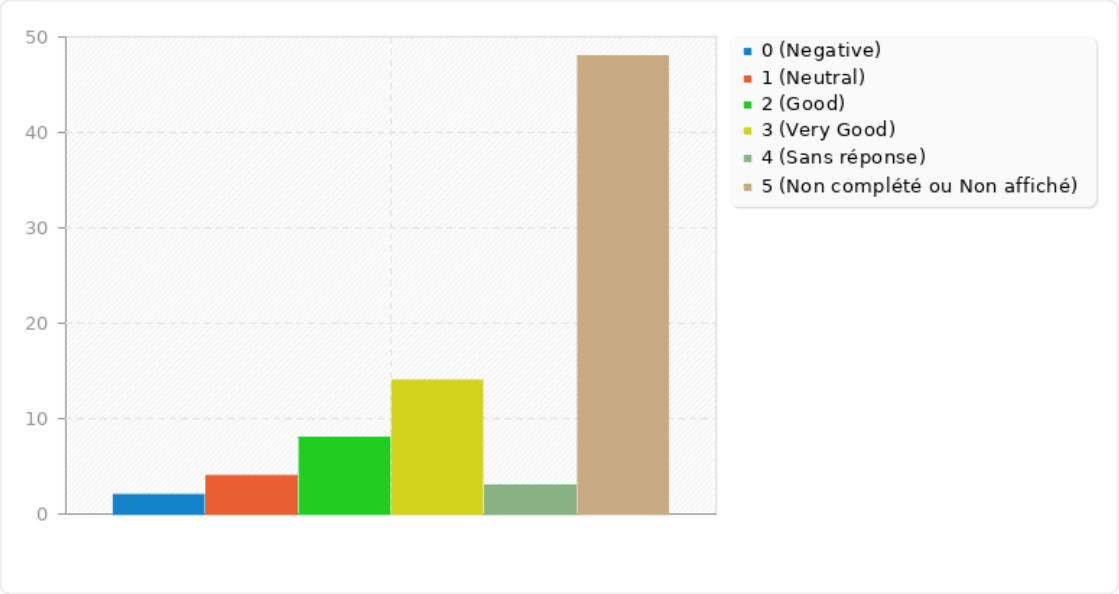
Résumé pour A7(SQ010)[Simplicity of installation]

Concerning the main simulator for your work, what is your general level of satisfaction regarding the technical criteria ...

Réponse	Décompte	Pourcentage
Negative (A2)	2	2.53%
Neutral (A3)	4	5.06%
Good (A4)	8	10.13%
Very Good (A5)	14	17.72%
Sans réponse	3	3.80%
Non complété ou Non affiché	48	60.76%

Résumé pour A7(SQ010)[Simplicity of installation]

Concerning the main simulator for your work, what is your general level of satisfaction regarding the technical criteria ...



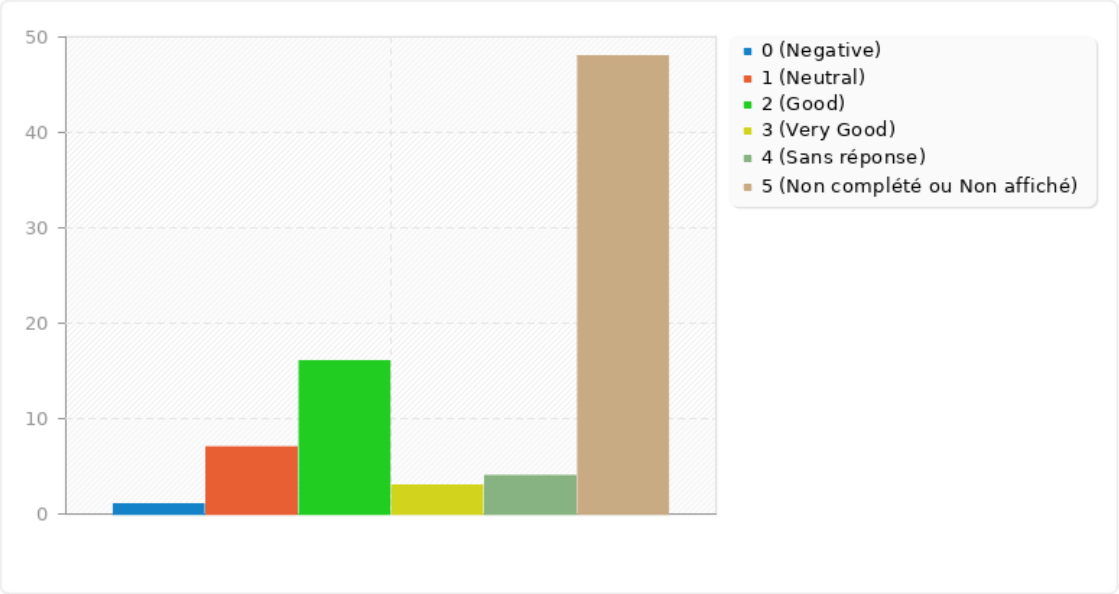
Résumé pour A7(SQ001)[What is your general level of satisfaction regarding technical possibilities ?]

Concerning the main simulator for your work, what is your general level of satisfaction regarding the technical criteria ...

Réponse	Décompte	Pourcentage
Negative (A2)	1	1.27%
Neutral (A3)	7	8.86%
Good (A4)	16	20.25%
Very Good (A5)	3	3.80%
Sans réponse	4	5.06%
Non complété ou Non affiché	48	60.76%

Résumé pour A7(SQ001)[What is your general level of satisfaction regarding technical possibilities ?]

Concerning the main simulator for your work, what is your general level of satisfaction regarding the technical criteria ...



Résumé pour A18

Please explain why you chose a particular level of satisfaction in more details.

Réponse	Décompte	Pourcentage
Réponse	10	12.66%
Sans réponse	21	26.58%
Non complété ou Non affiché	48	60.76%

Identifiant (ID)	Réponse
6	mujoco is good for manipulation, but is not suitable for underwater application
16	Our navigation system is visual based, and the version of Gazebo we are using (Gazebo 9 with ROS Melodic) doesn't have functioning normal maps or complex shader support. This makes it tricky for our work, as having high quality models and textures really improves what we can do. We are particularly interested in procedural shader support, which is completely lacking in Gazebo. Right now we can get by with Gazebo, and we haven't found any decent alternatives that support UUVs (We use the UUV simulator plugin for our work).
21	I try to put a lot of focus on sim-to-real functionalities. So the underlying physics engine is of the utmost importance for me when I look at how a legged robot, robot arm, or offroad autonomous car interacts with its environment. Typically I have to rewrite the physics engines in order to get good results. I'm no a big ML guy, but when I do use it I typically rely on physical instead of simulated datasets. When I do use ML in simulated, the faster-than-real-time capabilities are great, but typically they have poor physics models that make them unideal in real world.
22	It was a custom simulator based on Unreal Engine/Airsim, so it required a lot of code to be written for it.
31	pip install pybullet to find out
39	Gazebo is probably the most up-to-date simulator for robotics, and is supported by various companies and labs. It runs with ROS without any problem, which is important for the sim-to-real line. Also, it can run in the background without any GUI. The main drawback is the load, which can be solved with a powerful CPU/GPU. On the opposite, the typical laptop cannot make it run faster than real-time, especially for large simulations.
51	Gazebo crashes a lot and is generally very painful to use and eats up a ton of compute resources, but it gets the job done and is deeply integrated with ros.
53	Gazebo throws up errors like no tomorrow but it's something of an industry standard and I'm comfortable with it. I just wish it worked better.
68	Could be faster but allows very good simulations
73	enough for research on control

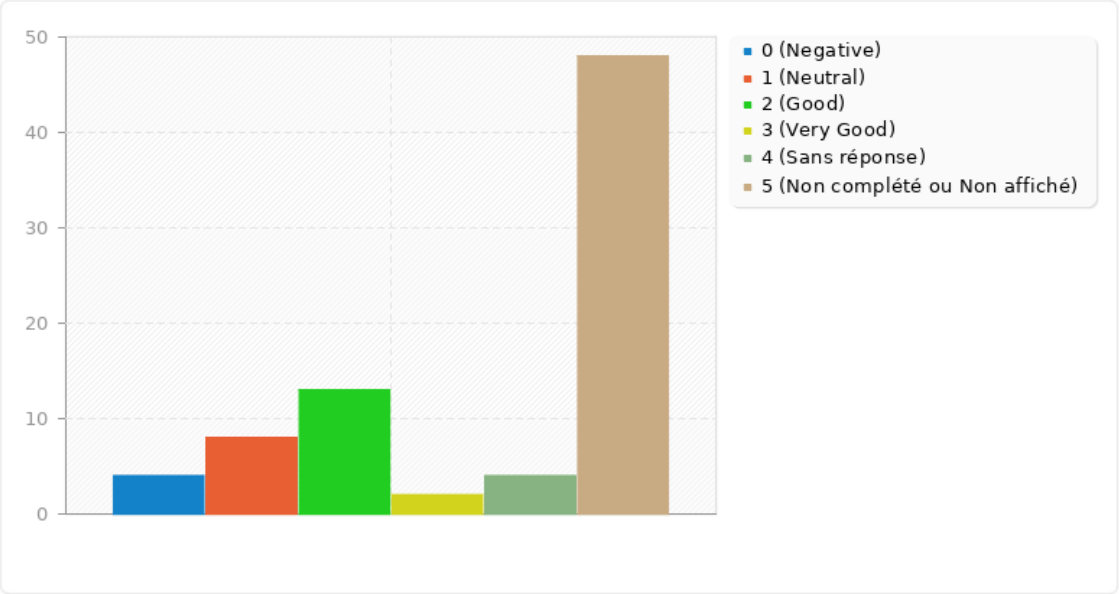
Résumé pour A17(SQ001)[Ergonomics (ease of use, simplicity of user interface, etc.)]

Concerning the main simulator for your work, what is your general level of satisfaction regarding the non-technical criteria ...

Réponse	Décompte	Pourcentage
Negative (A1)	4	5.06%
Neutral (A2)	8	10.13%
Good (A3)	13	16.46%
Very Good (A4)	2	2.53%
Sans réponse	4	5.06%
Non complété ou Non affiché	48	60.76%

Résumé pour A17(SQ001)[Ergonomics (ease of use, simplicity of user interface, etc.)]

Concerning the main simulator for your work, what is your general level of satisfaction regarding the non-technical criteria ...



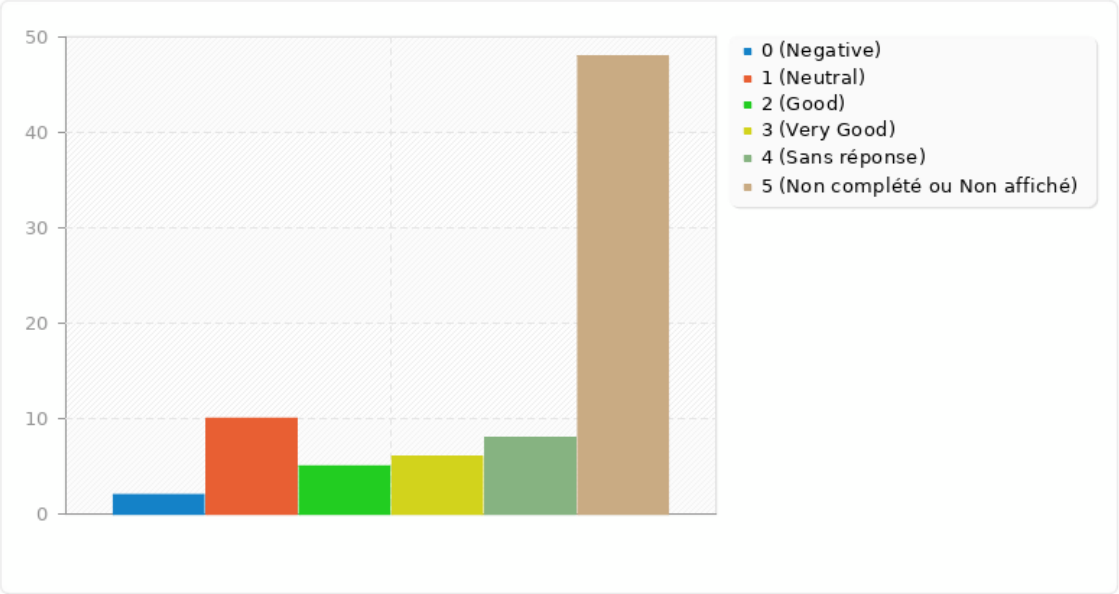
Résumé pour A17(SQ002)[Customer support]

Concerning the main simulator for your work, what is your general level of satisfaction regarding the non-technical criteria ...

Réponse	Décompte	Pourcentage
Negative (A1)	2	2.53%
Neutral (A2)	10	12.66%
Good (A3)	5	6.33%
Very Good (A4)	6	7.59%
Sans réponse	8	10.13%
Non complété ou Non affiché	48	60.76%

Résumé pour A17(SQ002)[Customer support]

Concerning the main simulator for your work, what is your general level of satisfaction regarding the non-technical criteria ...



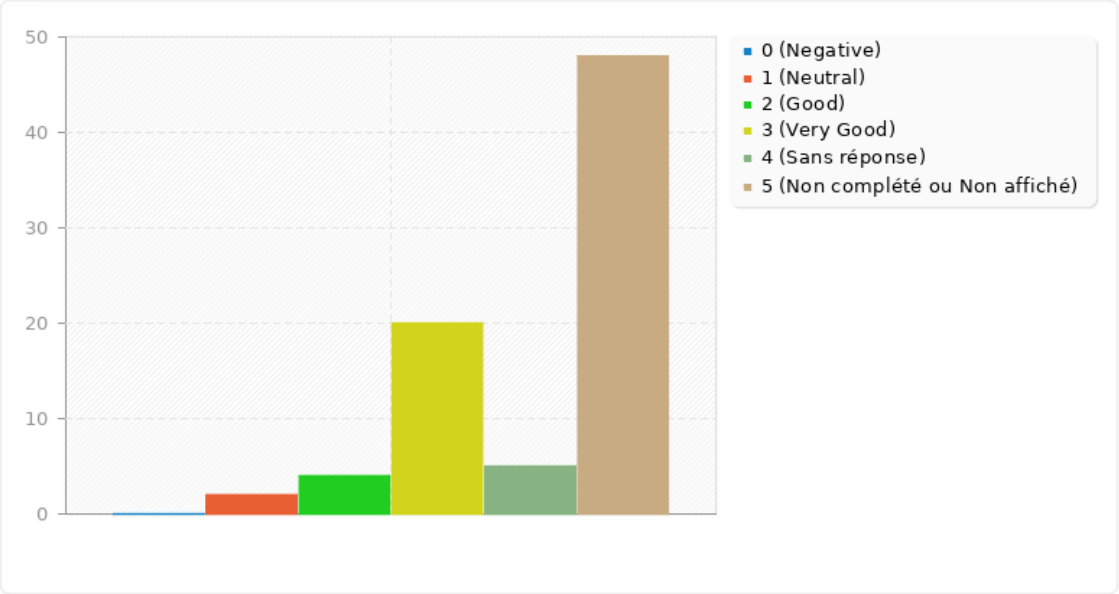
Résumé pour A17(SQ003)[Great value for money]

Concerning the main simulator for your work, what is your general level of satisfaction regarding the non-technical criteria ...

Réponse	Décompte	Pourcentage
Negative (A1)	0	0.00%
Neutral (A2)	2	2.53%
Good (A3)	4	5.06%
Very Good (A4)	20	25.32%
Sans réponse	5	6.33%
Non complété ou Non affiché	48	60.76%

Résumé pour A17(SQ003)[Great value for money]

Concerning the main simulator for your work, what is your general level of satisfaction regarding the non-technical criteria ...



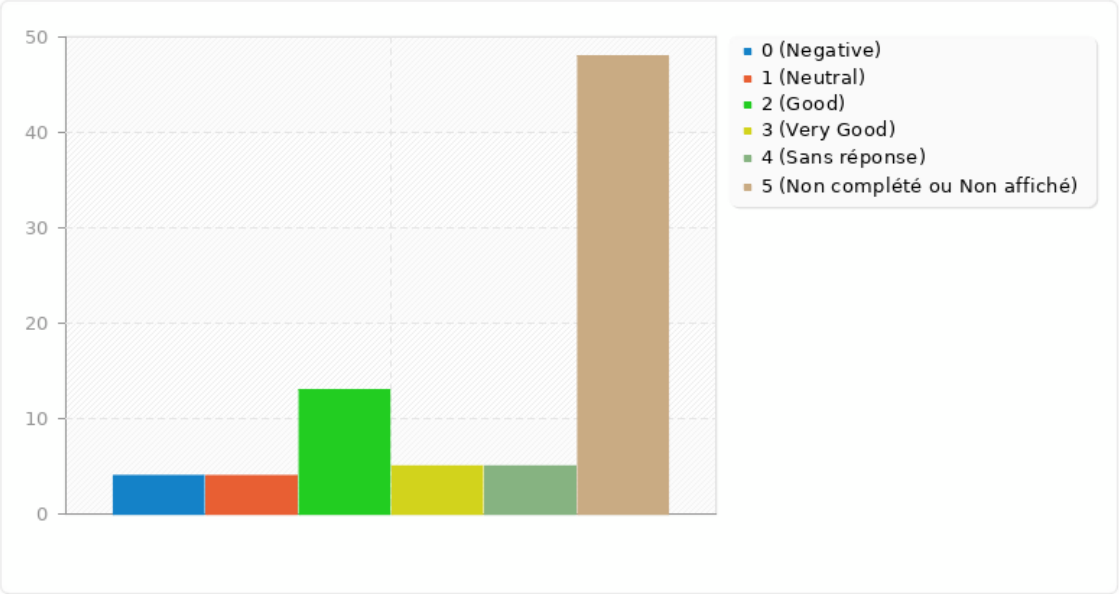
Résumé pour A17(SQ004)[Exhaustive documentation]

Concerning the main simulator for your work, what is your general level of satisfaction regarding the non-technical criteria ...

Réponse	Décompte	Pourcentage
Negative (A1)	4	5.06%
Neutral (A2)	4	5.06%
Good (A3)	13	16.46%
Very Good (A4)	5	6.33%
Sans réponse	5	6.33%
Non complété ou Non affiché	48	60.76%

Résumé pour A17(SQ004)[Exhaustive documentation]

Concerning the main simulator for your work, what is your general level of satisfaction regarding the non-technical criteria ...



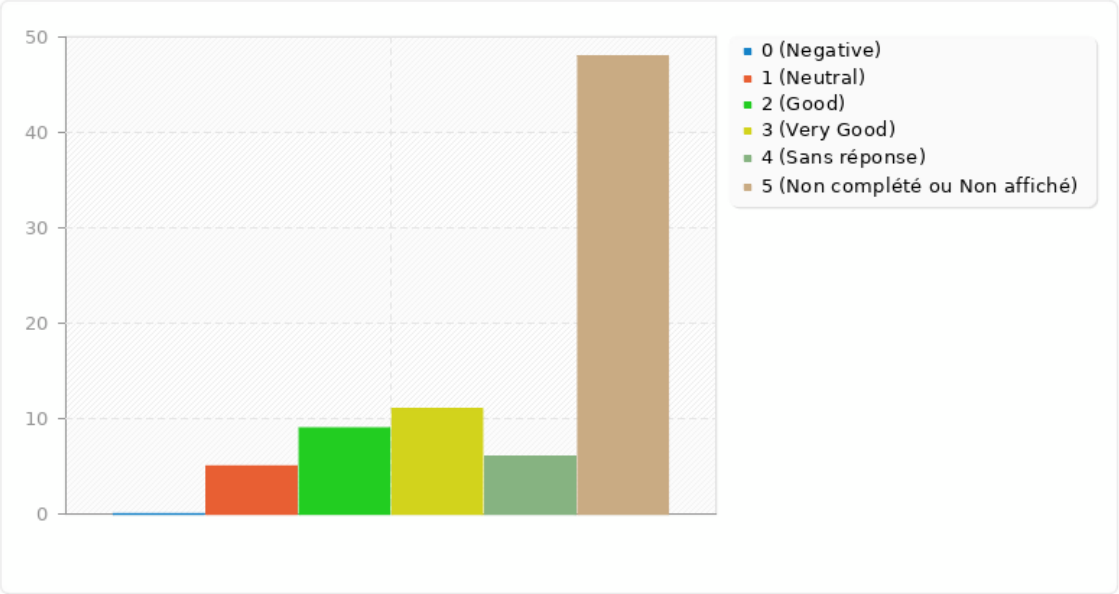
Résumé pour A17(SQ005)[Community]

Concerning the main simulator for your work, what is your general level of satisfaction regarding the non-technical criteria ...

Réponse	Décompte	Pourcentage
Negative (A1)	0	0.00%
Neutral (A2)	5	6.33%
Good (A3)	9	11.39%
Very Good (A4)	11	13.92%
Sans réponse	6	7.59%
Non complété ou Non affiché	48	60.76%

Résumé pour A17(SQ005)[Community]

Concerning the main simulator for your work, what is your general level of satisfaction regarding the non-technical criteria ...



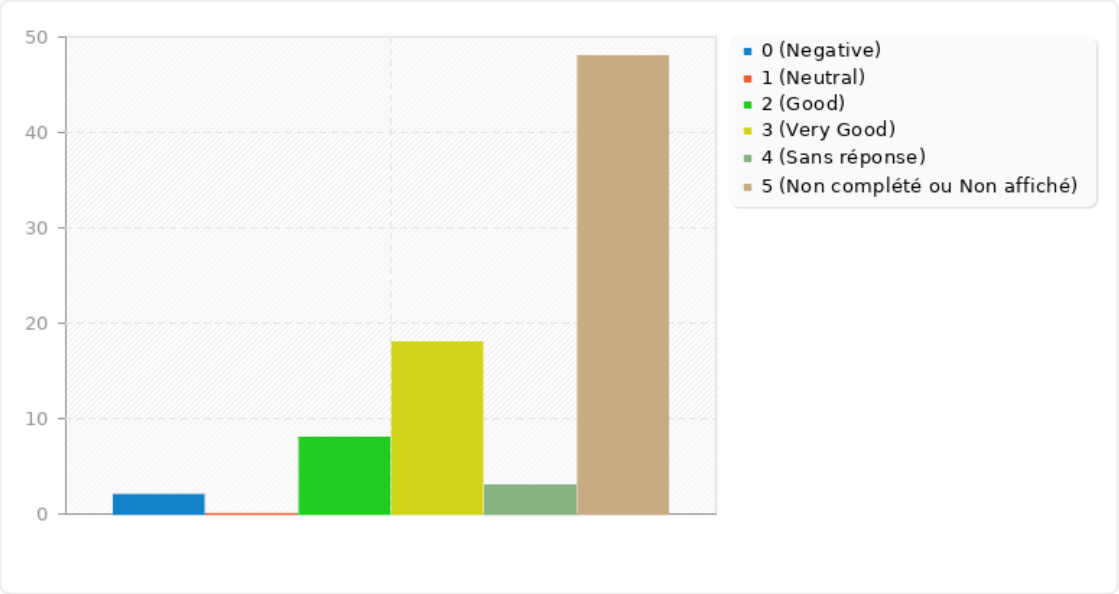
Résumé pour A17(SQ006)[Open-source]

Concerning the main simulator for your work, what is your general level of satisfaction regarding the non-technical criteria ...

Réponse	Décompte	Pourcentage
Negative (A1)	2	2.53%
Neutral (A2)	0	0.00%
Good (A3)	8	10.13%
Very Good (A4)	18	22.78%
Sans réponse	3	3.80%
Non complété ou Non affiché	48	60.76%

Résumé pour A17(SQ006)[Open-source]

Concerning the main simulator for your work, what is your general level of satisfaction regarding the non-technical criteria ...



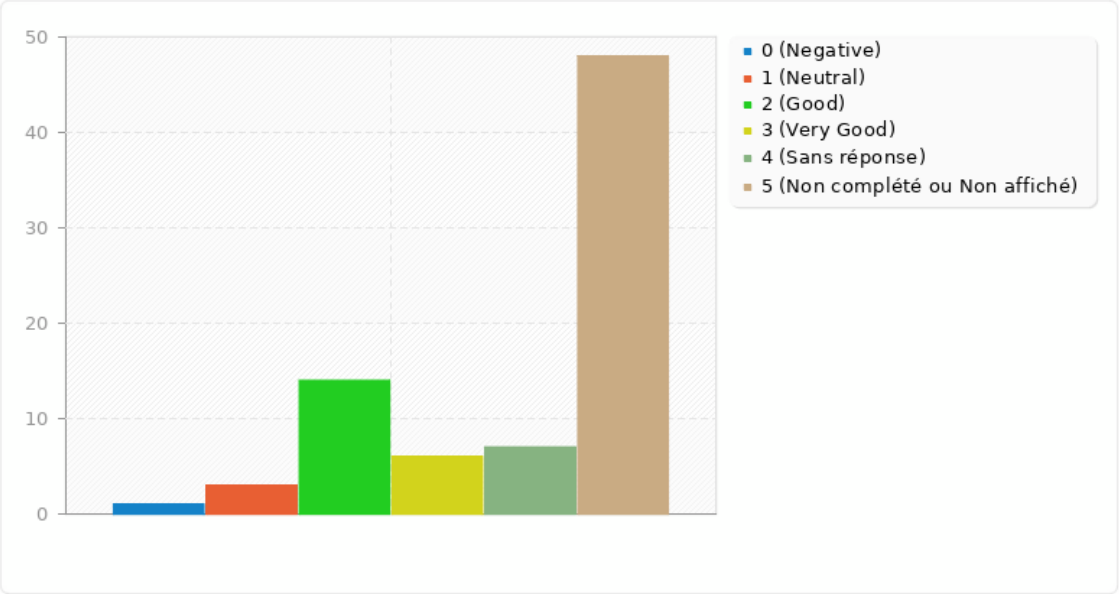
Résumé pour A17(SQ007)[What is your general level of satisfaction regarding non technical possibilities ?]

Concerning the main simulator for your work, what is your general level of satisfaction regarding the non-technical criteria ...

Réponse	Décompte	Pourcentage
Negative (A1)	1	1.27%
Neutral (A2)	3	3.80%
Good (A3)	14	17.72%
Very Good (A4)	6	7.59%
Sans réponse	7	8.86%
Non complété ou Non affiché	48	60.76%

Résumé pour A17(SQ007)[What is your general level of satisfaction regarding non technical possibilities ?]

Concerning the main simulator for your work, what is your general level of satisfaction regarding the non-technical criteria ...



Résumé pour A8

Please explain why you chose a particular level of satisfaction in more details.

Réponse	Décompte	Pourcentage
Réponse	5	6.33%
Sans réponse	26	32.91%
Non complété ou Non affiché	48	60.76%

Identifiant (ID)	Réponse
6	Mainly for research
16	Its an ok tool to use, its UI isn't too complicated and it has some debug tools, the graphing of position data is very helpful. The fact it is free and widely available is a big plus
53	The gazebo community is large and helpful
67	The documentation is incomplete and the suport is not really prone to answer accurately.
73	enough for what I need

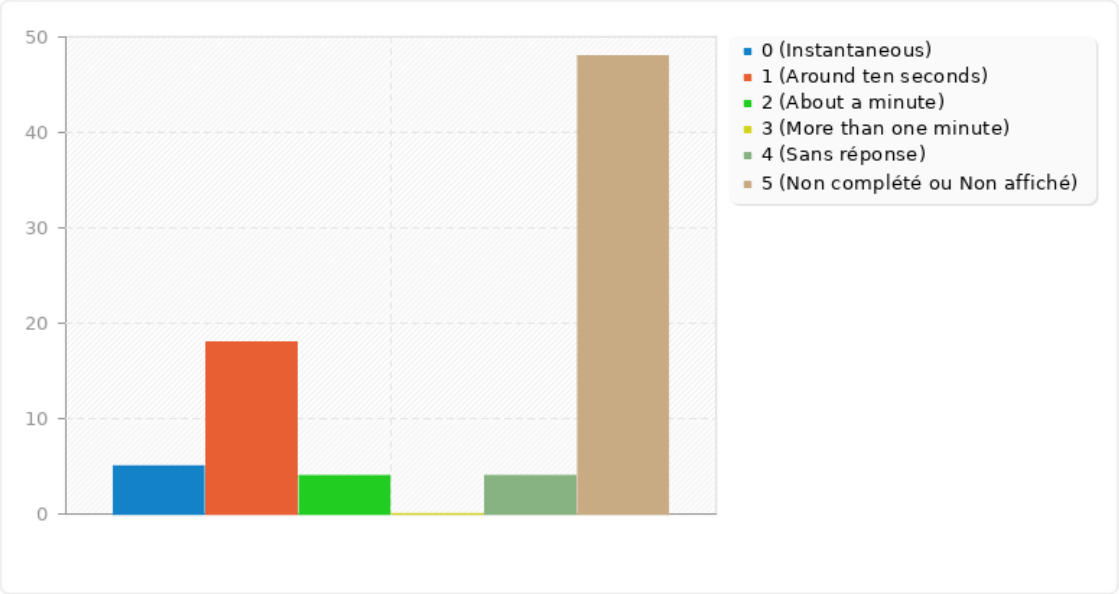
Résumé pour A12

How long does your software take to initialize when you launch it ?

Réponse	Décompte	Pourcentage
Instantaneous (A1)	5	6.33%
Around ten seconds (A2)	18	22.78%
About a minute (A3)	4	5.06%
More than one minute (A4)	0	0.00%
Sans réponse	4	5.06%
Non complété ou Non affiché	48	60.76%

Résumé pour A12

How long does your software take to initialize when you launch it ?



Résumé pour A13

What tools do you use in addition to or in parallel with your current simulation tool?

Réponse	Décompte	Pourcentage
Réponse	16	20.25%
Sans réponse	15	18.99%
Non complété ou Non affiché	48	60.76%

Identifiant (ID)	Réponse
3	I typically use the Unreal Engine with the AirSim plugin, or Gazebo with the UUVSim plugin.
6	Integrated with deep learning library
7	ROS. the reason we use Gazebo is that it is part of the ROS ecosystem,
16	ROS Melodic and RViz
22	Custom middleware.
23	Liquid.ai
30	ROS
31	tensorflow, numpy, pytorch
36	ROS2
39	ROS
47	I use an OSG bridge for visual rendering of the simulation.
51	The uuv-simulator packages for underwater simulation.
53	ROS
65	ROS, Ardupilot,
68	Python scripts, Notepad++, Qt 5, Matlab
73	experiments

Résumé pour C1

What are, according to your current knowledge, the most used robotic simulation tools no matter the sector? (please list 1 to 3 names below)

Réponse	Décompte	Pourcentage
Réponse	19	24.05%
Sans réponse	12	15.19%
Non complété ou Non affiché	48	60.76%

Identifiant (ID)	Réponse
3	Gazebo
6	Underwater simulation is few currently. I use uuvsimulator to simulate underwater manipulation
7	Gazebo, for sure. Unsure of the rest.
10	Gazebo
16	Gazebo
21	Depends on the application. Best jack-of-all trades being Gazebo. For legged robots, MujoCo. For robot arms and vision, Nvidia ISAAC. For Autonomous cars, Carla.
22	Gazebo, Airsim
24	Gazebo, Carla, Unity
30	Gazebo
36	Gazebo Webots OpenSim
39	Gazebo / Webots / Unity
47	As far as I know, gazebo.
51	Gazebo Mujoco Simulink stuff
53	Gazebo CARLA
65	Gazebo
67	Gazebo / UUVSIM Unity
68	Gazebo, Unity
73	simauv, gazebo
83	Gazebo, Simulink

Résumé pour C2

What are, according to your current knowledge, the most used simulation tools in the maritime sector? (please list 1 to 3 names below)

Réponse	Décompte	Pourcentage
Réponse	15	18.99%
Sans réponse	16	20.25%
Non complété ou Non affiché	48	60.76%

Identifiant (ID)	Réponse
3	Gazebo
6	uuvsimulator
7	Unsure. Matlab/Simulink, maybe.
10	uwsim, uuvsimulator
16	Gazebo, Unsure really
22	N/A
30	UUV sim (Gazebo-based)
36	?
39	Gazebo with UUV Simulator has got some attention a few years ago. It is a project-made extension for Gazebo and unfortunately is asking for maintainers now. UWSim has a much better rendering than Gazebo (even with UUV) but the dynamics and sensors are poor. It stills makes nice videos, which may be important to talk about ongoing projects.
47	Gazebo + UUV library
53	Gazebo
65	Gazebo
68	Gazebo, Vortex
73	MSS
83	Dave, UUVSimulator, Gazebo

Résumé pour B2

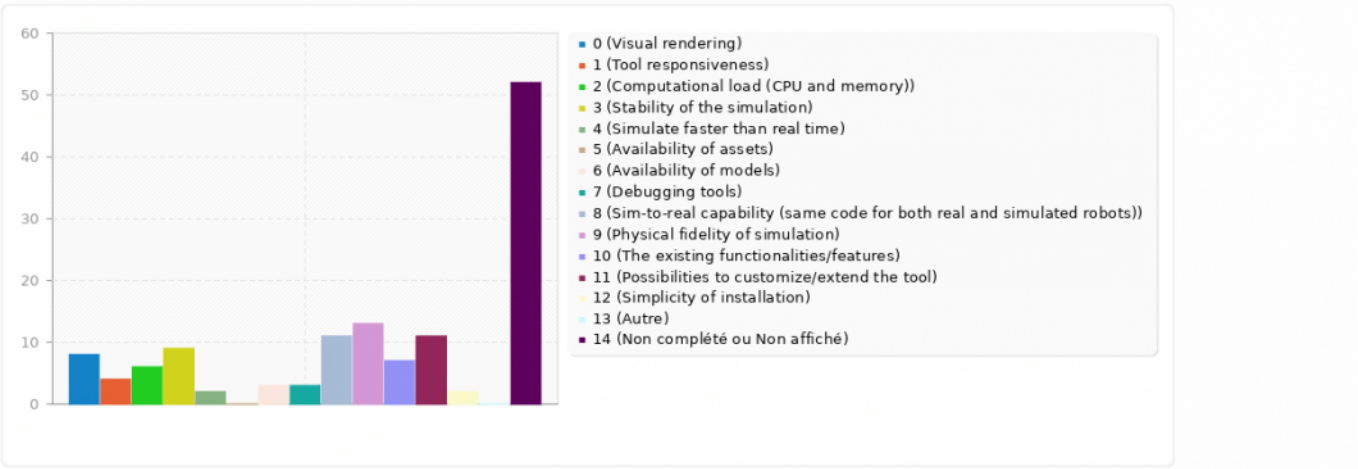
What are, according to your personal experience, the most crucial technical criteria for choosing a simulator? Please choose only 3.

Réponse	Décompte	Pourcentage
Visual rendering (SQ001)	8	10.13%
Tool responsiveness (SQ004)	4	5.06%
Computational load (CPU and memory) (SQ009)	6	7.59%
Stability of the simulation (SQ003)	9	11.39%
Simulate faster than real time (SQ010)	2	2.53%
Availability of assets (SQ011)	0	0.00%
Availability of models (SQ015)	3	3.80%
Debugging tools (SQ012)	3	3.80%
Sim-to-real capability (same code for both real and simulated robots) (SQ013)	11	13.92%
Physical fidelity of simulation (SQ014)	13	16.46%
The existing functionalities/features (SQ016)	7	8.86%
Possibilities to customize/extend the tool (SQ017)	11	13.92%
Simplicity of installation (SQ018)	2	2.53%
Autre	0	0.00%
Non complété ou Non affiché	52	65.82%

Identifiant (ID)	Réponse

Résumé pour B2

What are, according to your personal experience, the most crucial technical criteria for choosing a simulator? Please choose only 3.



Résumé pour B13

Following the previous question, why did you choose those criteria as crucial?

Réponse	Décompte	Pourcentage
Réponse	8	10.13%
Sans réponse	19	24.05%
Non complété ou Non affiché	52	65.82%

Identifiant (ID)	Réponse
3	Low computational load + high stability makes it easier to simulate faster than realtime, or to simulate multiple robots at the same time. I usually do vision-based algorithms, so visual rendering is critical for my applications.
6	Physical engine is important for robots
16	Strong visual rendering is incredibly useful for our visual based navigation system, and being able to use as much of the same code for the real world is pretty crucial.
39	A simulator ha to be as close to the physics as possible. This includes of course mechanics, but also visual rendering (especially for maritime with fog / glare).
47	Physical fidelity is the most important by far. I think visual fidelity is also important for testing computational visual assets of your project
51	They're the bare minimum. Most of the other points can be worked around or affect usability, but those points are core functionality.
53	I need to be able to debug in a timely manner
68	Simulation has to allow the study of the results of actions on vehicles/robots without carrying out the experiment on the actual element, so it has to be accurate. It has to be quite fast and it has to allow customization for research purposes.

Résumé pour B3

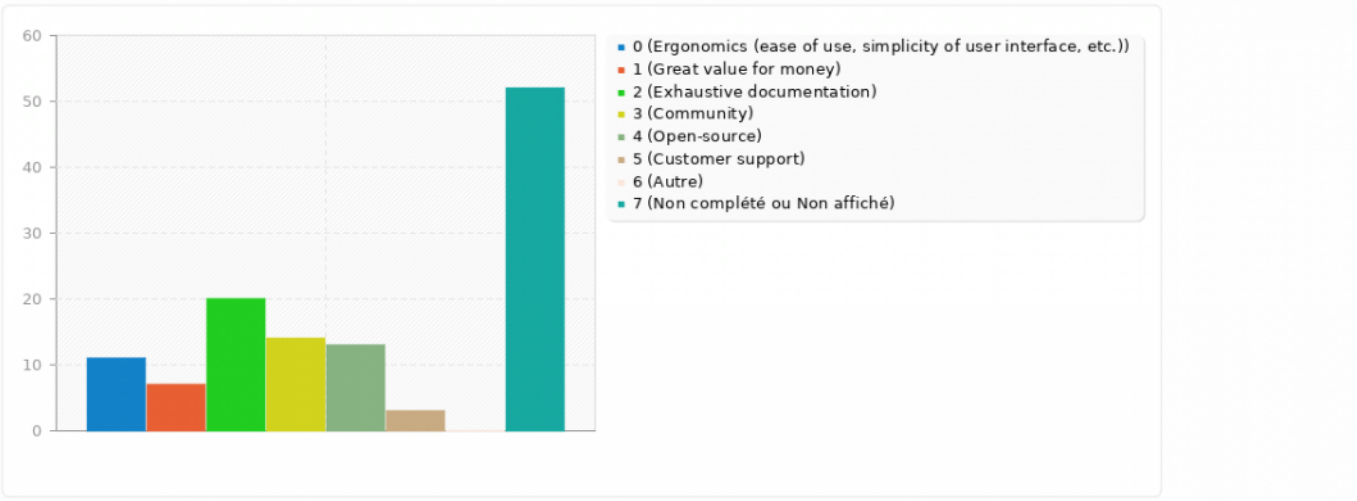
What are, according to your personal experience, the most crucial non-technical criteria for choosing a simulator? Please choose only 3.

Réponse	Décompte	Pourcentage
Ergonomics (ease of use, simplicity of user interface, etc.) (SQ001)	11	13.92%
Great value for money (SQ012)	7	8.86%
Exhaustive documentation (SQ010)	20	25.32%
Community (SQ008)	14	17.72%
Open-source (SQ004)	13	16.46%
Customer support (SQ009)	3	3.80%
Autre	0	0.00%
Non complété ou Non affiché	52	65.82%

Identifiant (ID)	Réponse

Résumé pour B3

What are, according to your personal experience, the most crucial non-technical criteria for choosing a simulator? Please choose only 3.



Résumé pour B14

Following the previous question, why did you choose those criteria as crucial?

Réponse	Décompte	Pourcentage
Réponse	3	3.80%
Sans réponse	24	30.38%
Non complété ou Non affiché	52	65.82%

Identifiant (ID)	Réponse
3	Most technical questions can be answered quickly by good documentation and/or a large community. Technical issues can be avoided altogether with an ergonomic interface.
6	Mainly for research
39	A software tool is almost never easy to use and the main value comes from its user community.

Résumé pour B4

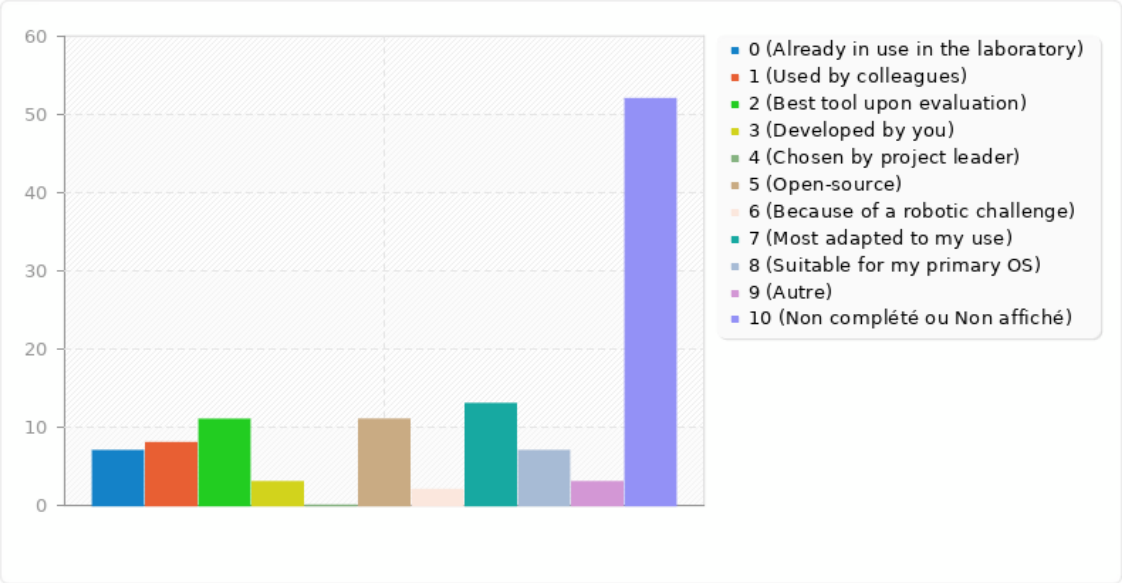
What are the main reasons for your current choice of simulation tool?

Réponse	Décompte	Pourcentage
Already in use in the laboratory (SQ001)	7	8.86%
Used by colleagues (SQ002)	8	10.13%
Best tool upon evaluation (SQ003)	11	13.92%
Developed by you (SQ004)	3	3.80%
Chosen by project leader (SQ005)	0	0.00%
Open-source (SQ006)	11	13.92%
Because of a robotic challenge (SQ007)	2	2.53%
Most adapted to my use (SQ008)	13	16.46%
Suitable for my primary OS (SQ009)	7	8.86%
Autre	3	3.80%
Non complété ou Non affiché	52	65.82%

Identifiant (ID)	Réponse
7	Integrates well with the ROS back end.
64	Integration with ROS
73	free

Résumé pour B4

What are the main reasons for your current choice of simulation tool?



Résumé pour B5

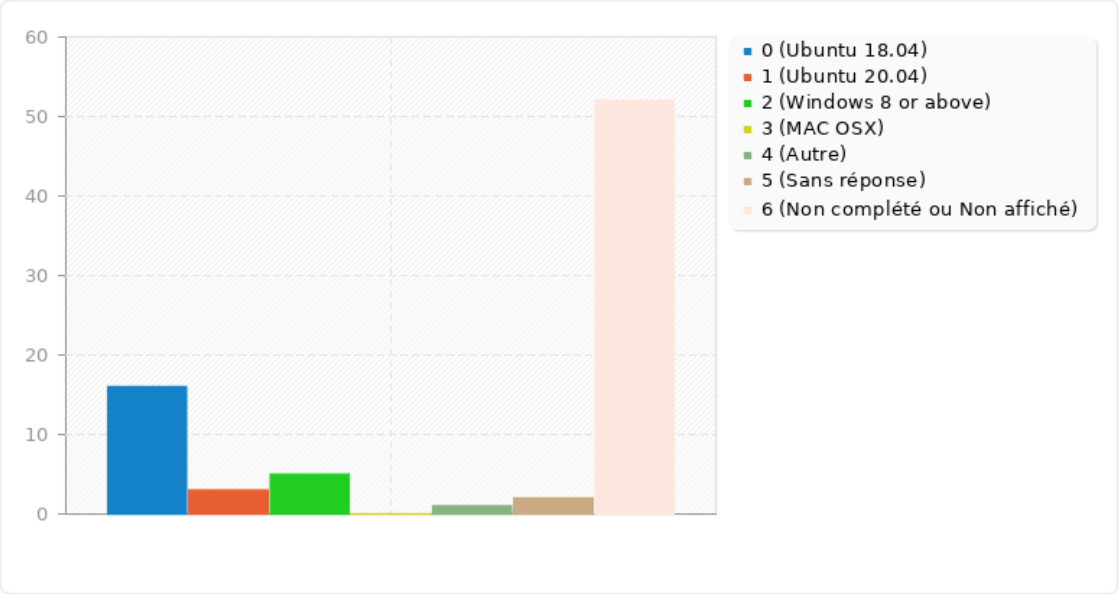
What is your primary OS?

Réponse	Décompte	Pourcentage
Ubuntu 18.04 (A1)	16	20.25%
Ubuntu 20.04 (A4)	3	3.80%
Windows 8 or above (A2)	5	6.33%
MAC OSX (A3)	0	0.00%
Autre	1	1.27%
Sans réponse	2	2.53%
Non complété ou Non affiché	52	65.82%

Identifiant (ID)	Réponse
6	ubuntu16

Résumé pour B5

What is your primary OS?



Résumé pour B1

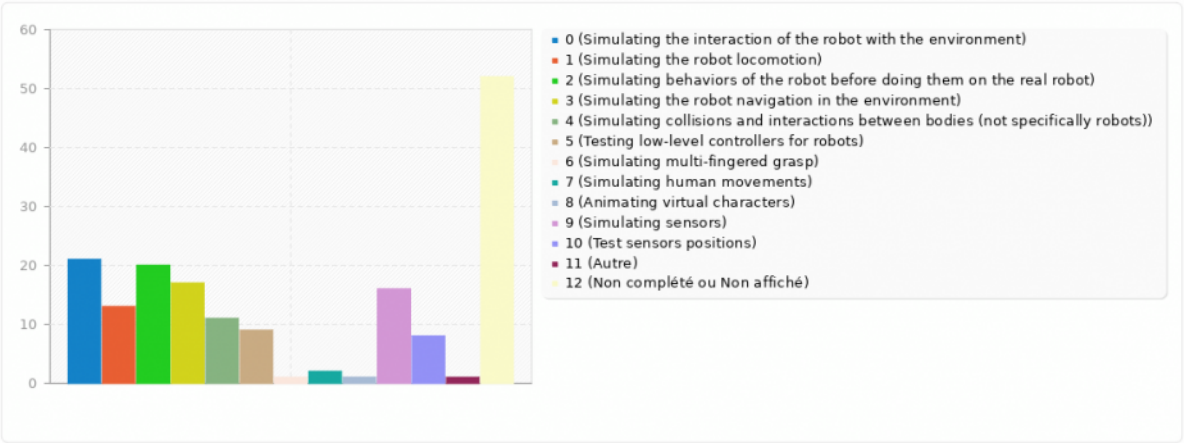
What are the main purposes for the use of simulators for robotics in your research?

Réponse	Décompte	Pourcentage
Simulating the interaction of the robot with the environment (SQ001)	21	26.58%
Simulating the robot locomotion (SQ002)	13	16.46%
Simulating behaviors of the robot before doing them on the real robot (SQ003)	20	25.32%
Simulating the robot navigation in the environment (SQ004)	17	21.52%
Simulating collisions and interactions between bodies (not specifically robots) (SQ005)	11	13.92%
Testing low-level controllers for robots (SQ006)	9	11.39%
Simulating multi-fingered grasp (SQ007)	1	1.27%
Simulating human movements (SQ008)	2	2.53%
Animating virtual characters (SQ009)	1	1.27%
Simulating sensors (SQ010)	16	20.25%
Test sensors positions (SQ011)	8	10.13%
Autre	1	1.27%
Non complété ou Non affiché	52	65.82%

Identifiant (ID)	Réponse
62	CI

Résumé pour B1

What are the main purposes for the use of simulators for robotics in your research?



Résumé pour B6

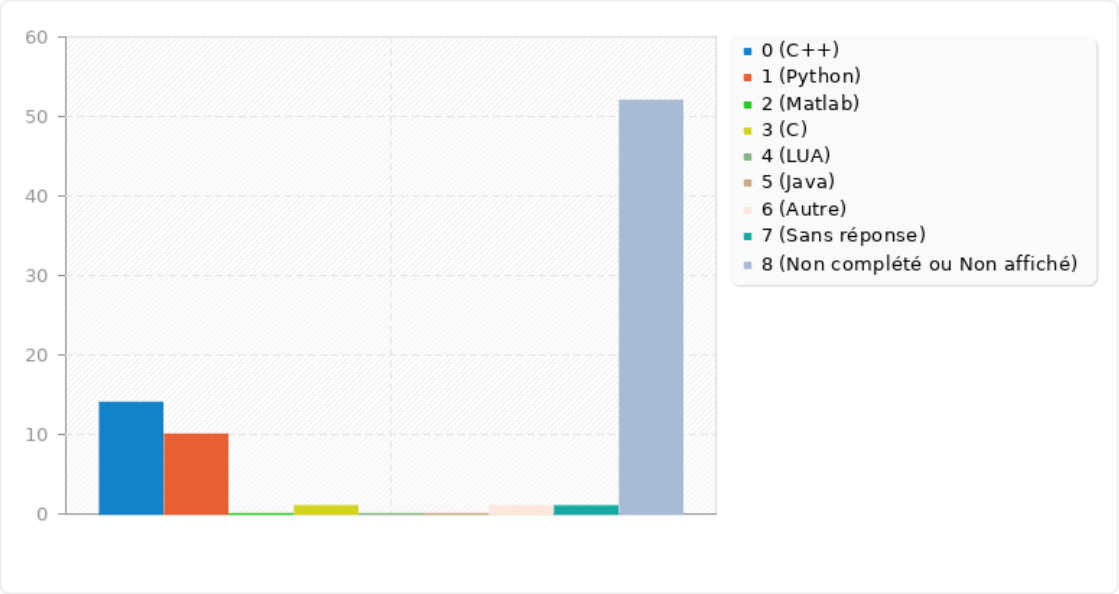
What is your primary programing language for your robotics projets?

Réponse	Décompte	Pourcentage
C++ (A1)	14	17.72%
Python (A2)	10	12.66%
Matlab (A3)	0	0.00%
C (A4)	1	1.27%
LUA (A5)	0	0.00%
Java (A6)	0	0.00%
Autre	1	1.27%
Sans réponse	1	1.27%
Non complété ou Non affiché	52	65.82%

Identifiant (ID)	Réponse
57	Scheme/Lisp/Julia

Résumé pour B6

What is your primary programing language for your robotics projets?



Résumé pour B12

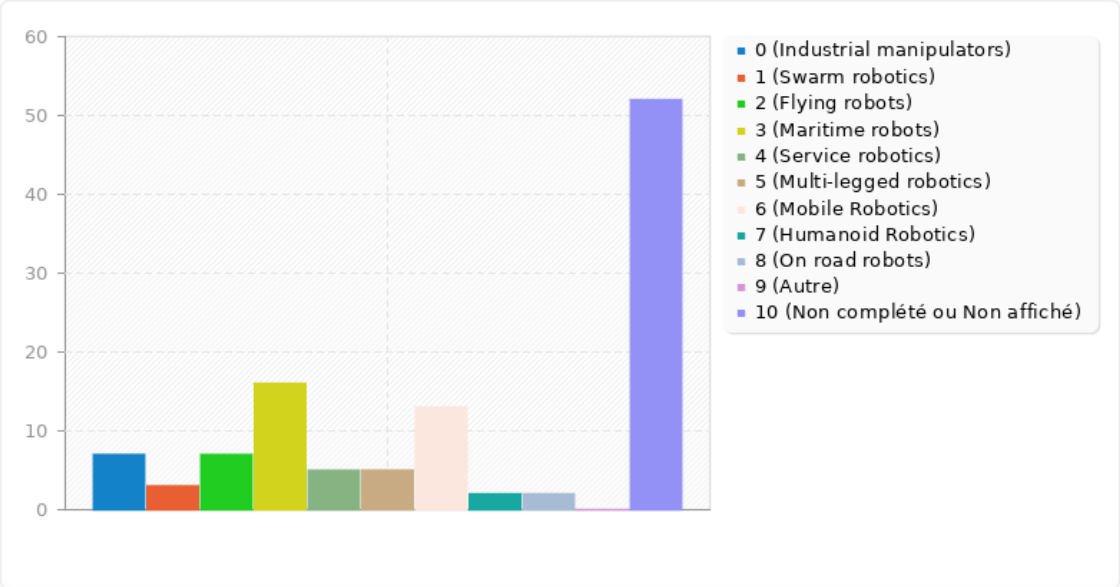
What are the robots you are simulating the most?

Réponse	Décompte	Pourcentage
Industrial manipulators (SQ009)	7	8.86%
Swarm robotics (SQ008)	3	3.80%
Flying robots (SQ007)	7	8.86%
Maritime robots (SQ011)	16	20.25%
Service robotics (SQ006)	5	6.33%
Multi-legged robotics (SQ005)	5	6.33%
Mobile Robotics (SQ004)	13	16.46%
Humanoid Robotics (SQ003)	2	2.53%
On road robots (SQ012)	2	2.53%
Autre	0	0.00%
Non complété ou Non affiché	52	65.82%

Identifiant (ID)	Réponse

Résumé pour B12

What are the robots you are simulating the most?



Résumé pour B7

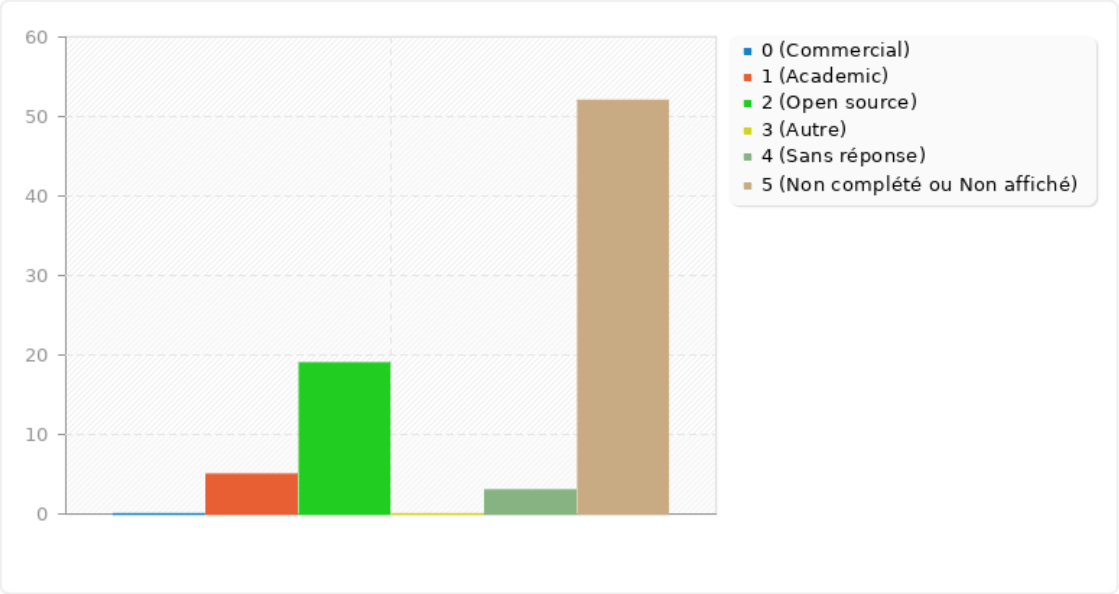
Are you using a commercial, academic or open source license for the main simulator ?

Réponse	Décompte	Pourcentage
Commercial (A1)	0	0.00%
Academic (A2)	5	6.33%
Open source (A3)	19	24.05%
Autre	0	0.00%
Sans réponse	3	3.80%
Non complété ou Non affiché	52	65.82%

Identifiant (ID)	Réponse

Résumé pour B7

Are you using a commercial, academic or open source license for the main simulator ?



Résumé pour B8

What is the type of your open source licence if applicable ?

Réponse	Décompte	Pourcentage
Réponse	5	6.33%
Sans réponse	22	27.85%
Non complété ou Non affiché	52	65.82%

Identifiant (ID)	Réponse
10	GPL
30	Apache 2
31	zlib
36	Apache 2.0
39	Apache

Résumé pour B9

What is your current hardware (CPU/RAM/GPU/...)?

Réponse	Décompte	Pourcentage
Réponse	10	12.66%
Sans réponse	17	21.52%
Non complété ou Non affiché	52	65.82%

Identifiant (ID)	Réponse
3	On workstation: 16 core i7, 24gb ram, GTX 1080 GPU
7	Have several, but usually nothing less than a GTX 1080, i7/Ryzen, 16-32 GB of RAM
16	Dell G5 laptop
39	Core i7 @ 2.70 GHz / 16 GiB RAM / Intel (almost no) GPU
47	I7 8th gen, 16GB RAM, 8GB RAM GPU
51	Ryzen cpu (16 cores I think?), 1080ti gpu, 32GB ram.
53	lenovo thinkpad w/ nvidia
67	Intel Core i5-6440HQ CPU @ 2.60GHz / RAM 8Go / Intel HD Graphics 530
68	Processeur Intel(R) Core(TM) i7-6700HQ CPU, 16 Go RAM, Nvidia Quadro M1000M
83	i7-9750/32GB/Quadro T1000

Résumé pour B10

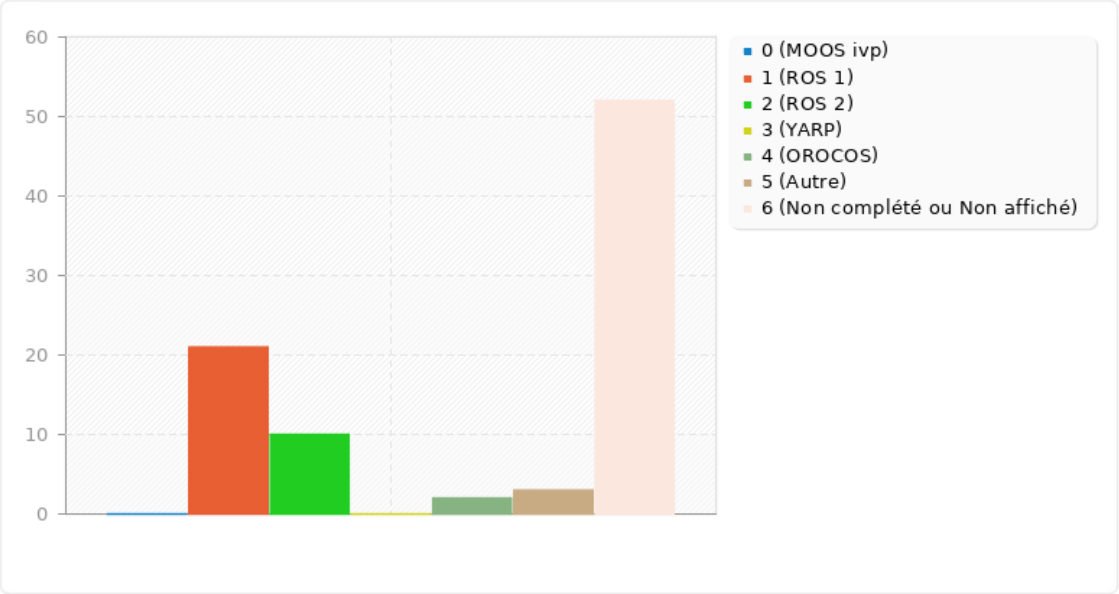
Which middleware(s) for robotics are you using?

Réponse	Décompte	Pourcentage
MOOS ivp (SQ001)	0	0.00%
ROS 1 (SQ002)	21	26.58%
ROS 2 (SQ003)	10	12.66%
YARP (SQ004)	0	0.00%
OROCOS (SQ005)	2	2.53%
Autre	3	3.80%
Non complété ou Non affiché	52	65.82%

Identifiant (ID)	Réponse
22	Custom
31	custom
73	mine

Résumé pour B10

Which middleware(s) for robotics are you using?



Résumé pour B11

Why are you using this particular middleware? (please describe reasons below)

Réponse	Décompte	Pourcentage
Réponse	11	13.92%
Sans réponse	16	20.25%
Non complété ou Non affiché	52	65.82%

Identifiant (ID)	Réponse
3	Availability of packages for localization and control and drivers for interfacing with hardware
6	It's easy to use
16	Easy to get started, has alot of ready made code.
21	ROS has extensive documentation that I can easily reference. It is also a very powerful tool to get something up-and-running quickly with good visualization tools to debug.
22	ROS is not to be trusted on flying robots.
39	De-facto standard, easy to share and re-use the tools with the community.
51	Incredibly common in academia. Simple to use and most people know how to use it.
64	Community, documentation, ease
68	Used by all coworkers
73	no need for more complexity
83	Most widely used. Will be switching to ROS 2 in Sep 2021

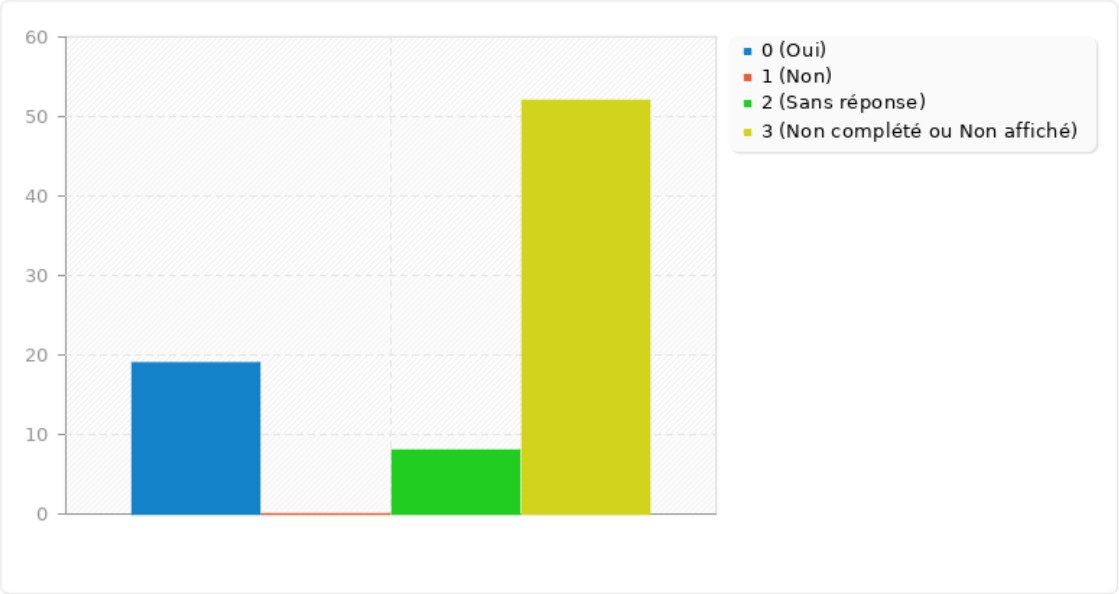
Résumé pour C3

Would you consider the community to be an important criterion when it comes to choosing a simulation tool?

Réponse	Décompte	Pourcentage
Oui (Y)	19	24.05%
Non (N)	0	0.00%
Sans réponse	8	10.13%
Non complété ou Non affiché	52	65.82%

Résumé pour C3

Would you consider the community to be an important criterion when it comes to choosing a simulation tool?



Résumé pour C4

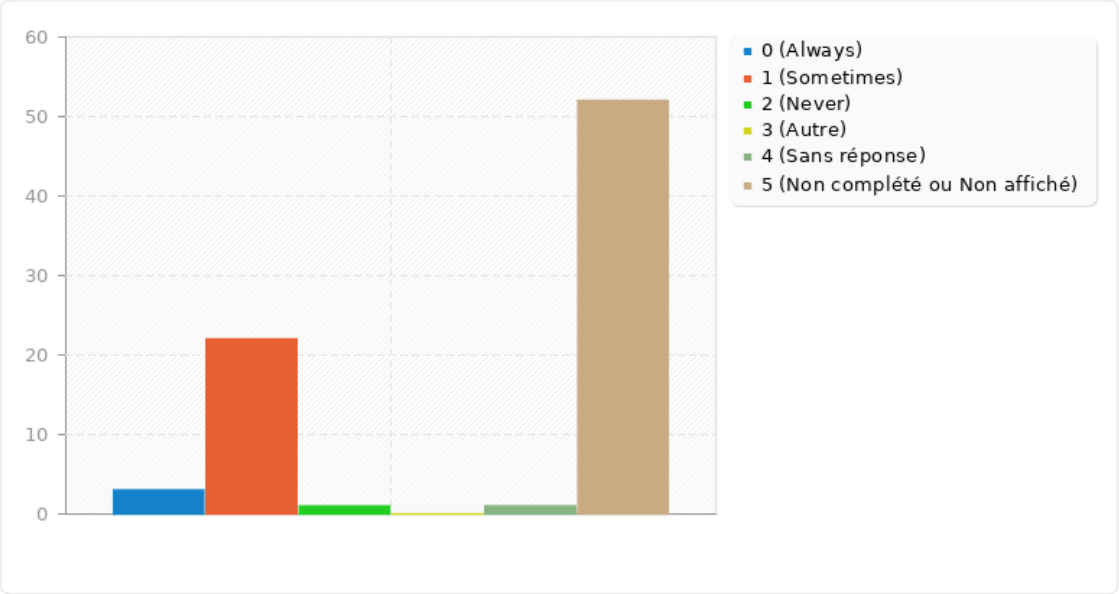
Do you interact with the community?

Réponse	Décompte	Pourcentage
Always (A1)	3	3.80%
Sometimes (A4)	22	27.85%
Never (A2)	1	1.27%
Autre	0	0.00%
Sans réponse	1	1.27%
Non complété ou Non affiché	52	65.82%

Identifiant (ID)	Réponse

Résumé pour C4

Do you interact with the community?



Résumé pour C7

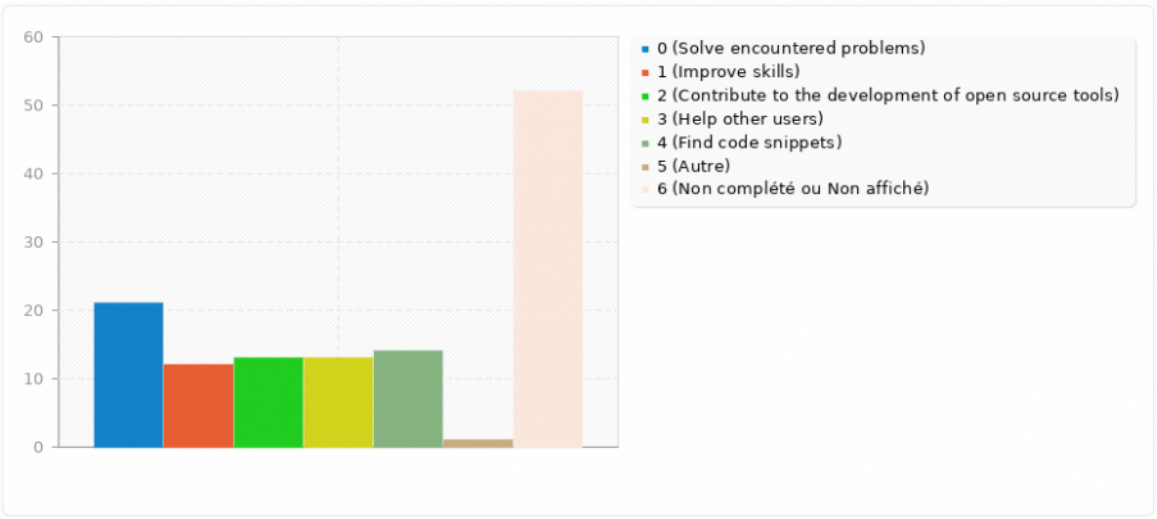
What are your main reasons for interacting with the community?

Réponse	Décompte	Pourcentage
Solve encountered problems (SQ001)	21	26.58%
Improve skills (SQ002)	12	15.19%
Contribute to the development of open source tools (SQ003)	13	16.46%
Help other users (SQ004)	13	16.46%
Find code snippets (SQ005)	14	17.72%
Autre	1	1.27%
Non complété ou Non affiché	52	65.82%

Identifiant (ID)	Réponse
39	Ask for new features (does not always work)

Résumé pour C7

What are your main reasons for interacting with the community?



Résumé pour C5

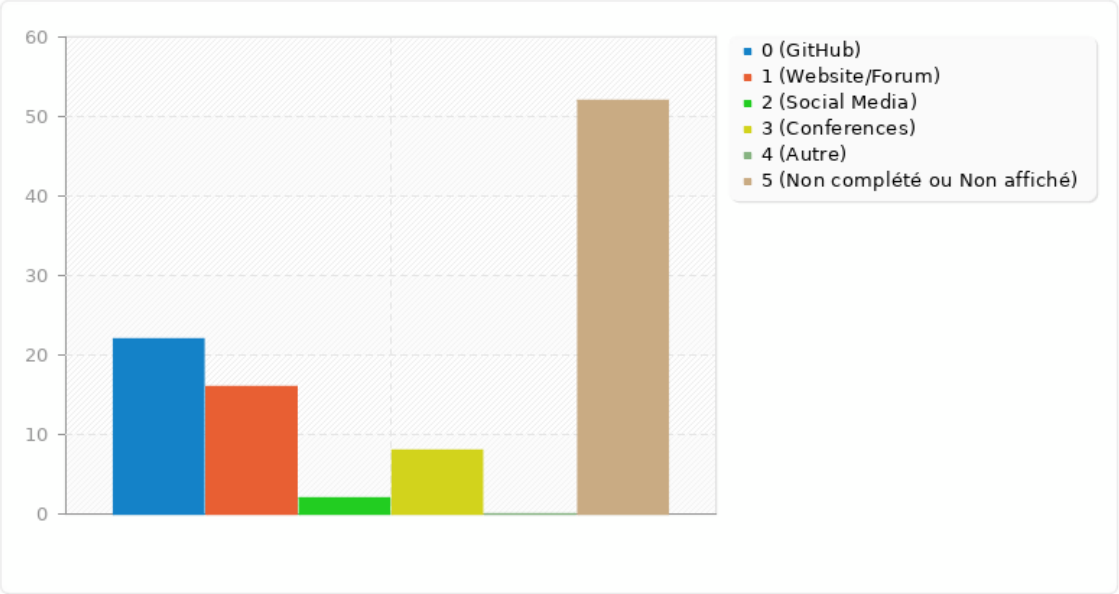
What are the main channels for you to interact with the community? (please indicate names and reasons if possible)

GitHub	**22**	**27.85%**
Website/Forum	16	20.25%
Social Media	2	2.53%
Conferences	8	10.13%
Autre	0	0.00%
Non complété ou Non affiché	52	65.82%

Identifiant (ID)	**Réponse**
22	Don't want to disclose
31	https://github.com/bulletphysics/bullet3
39	Depending on the repository: issues, pull-requests
47	Issues page of open-source packages
64	GitHub issues to find past solutions or submit issues
68	Easy to show issues
30	https://discourse.ros.org
39	answers.ros.org
47	ROS answers, Gazebo forum
68	Best place to find snippets
39	discourse.ros.org
39	SIMPAR

Résumé pour C5

What are the main channels for you to interact with the community? (please indicate names and reasons if possible)



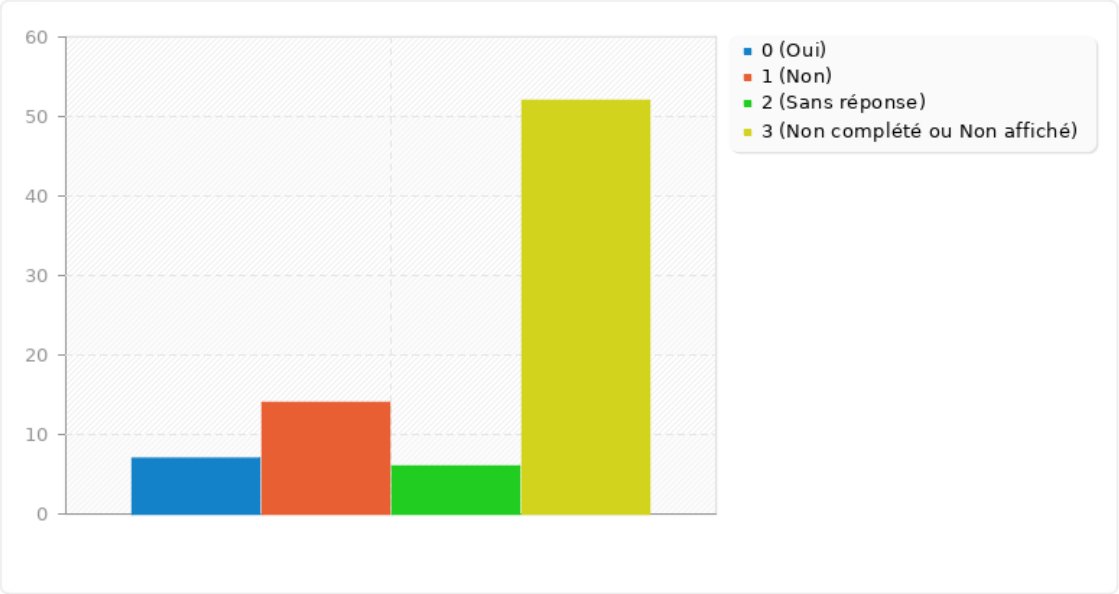
Résumé pour D10

Are you competing, or have you competed in a challenge in the last three years?

Réponse	Décompte	Pourcentage
Oui (Y)	7	8.86%
Non (N)	14	17.72%
Sans réponse	6	7.59%
Non complété ou Non affiché	52	65.82%

Résumé pour D10

Are you competing, or have you competed in a challenge in the last three years?



Résumé pour D11

If yes, which one(s)?

Réponse	Décompte	Pourcentage
Réponse	6	7.59%
Sans réponse	21	26.58%
Non complété ou Non affiché	52	65.82%

Identifiant (ID)	Réponse
3	SAE AutoDrive Challenge for self-driving cars. Simulated the car and track in Gazebo.
6	JD robotics challenge
24	Euopean Robotics League
64	Virtual RobotX (VRX)
67	Coupe de France de robotique
83	DARPA SubT Challenge

Résumé pour D12

If yes, why did you choose to compete in a challenge?

Réponse	Décompte	Pourcentage
Réponse	4	5.06%
Sans réponse	23	29.11%
Non complété ou Non affiché	52	65.82%

Identifiant (ID)	Réponse
6	It's a good path to practice
64	For fun and to learn about robotics as part of a student led robotic club
67	Started with the robotic club of my school in first year and never stopped
83	Relevant Research Interests

Résumé pour D13

If yes, why did you choose to compete in this particular challenge?

Réponse	Décompte	Pourcentage
Réponse	3	3.80%
Sans réponse	24	30.38%
Non complété ou Non affiché	52	65.82%

Identifiant (ID)	Réponse
6	My research is related to this challenge
64	The team already participated in Robonation competition (RobotX, Roboboat and Robosub)
67	It was the usual challenge my school's robotic club used to compete in.

Résumé pour C6

Would you consider contributing to an open source simulation tool on a regular basis?

Réponse	Décompte	Pourcentage
Oui (Y)	12	15.19%
Non (N)	2	2.53%
Sans réponse	13	16.46%
Non complété ou Non affiché	52	65.82%

Résumé pour C6

Would you consider contributing to an open source simulation tool on a regular basis?