1. Troubleshooting resources

General good practice:

- Read the Changelog and release notes and the documentation on the website ifm3d.com. These contain precious information about new features, bugfixes and changes in existing features. Most of the documents that we upload to the platforms you can see can and should be sent to the customer. If that's not the case, we will specify it clearly.
- Have you recently updated your system? Make sure that the compatibility between all components is guaranteed is by the compatibility matrix in the release notes / change log.
- Can you reproduce the error more than one time?
  A practical results of this rule means: try turning the O3R off and on again. We know it's a standard answer, but it truly helps quite often.

Troubleshooting software and general coding:

- Check your environment:
  Are you using the version you think you are using (use `pip show ifmO3r` for example to check your ifmO3r package version)?
  Also check the environment is active in your current command line interface.
- Are you referencing the right file?
  Are you pointing at the file you think you are pointing at. Check the file name and path.
  Typos happen. Don't ask how we know 😊
- Syntax:
  Enough/too many parentheses? Quotation marks? Structure?
  Also remember the syntax may be different depending on which CLI (Command Line Interface) you're using
- READ THE ERROR MESSAGE
  Software engineers usually do their best to have explicit error messages where possible. They give you good insights into what's wrong.

Point cloud artifacts:

- Check the current settings:
  Do they make sense for the scene you are measuring?
  Which parameter set did you use for such an application with the O3D?
- Change the parameters values and understand their impact on the point cloud:
  Use the documentation available on the website ifm3d.com (we constantly work on adding more documentation and update said website)
- Think about the use case:
  Is the artifact you are seeing a TRUE problem for your use case or can you be as well ignoring it?
  Is it a bug or a feature? E.g, pixels don't get marked as invalid for no reason, so whenever pixels disappear from the view, there exists an explanation behind it.
- What makes a good point cloud truly good?
  Does your application depend on measurement accuracy and nothing else? Or would you rather

detect more of the environment and are ok with a higher noise?
Understand your (customers) application but also let the imagination fly.

2. How to contact the CSR team for support:

- Please *first* try to solve the problem on your own. Everyone's time is valuable. So make it count.
- Understand that our priorities might not be the same as yours right now. This is no personal grudge.
- Please read through your message before sending it. Make sure the translation is understandable. We know that English is the first language of only very few of us, but at the moment it is the only one we can all use.
- Make sure you give us enough information to help you (see section on how to report a bug). More details is always better.

Tip: you can search through the ms teams channel posts and comments to find if your question has been addressed in the past. Use the filters to select the appropriate channel, potential mention or date, etc...

3. How to report a bug:

Necessary information (adapt to your specific case):

- Software versions:
    - Embedded Software version (FW)
    - ifmO3r python package version
    - ifmO3rViewer python package version
- Steps to reproduce the problem: we need to be able to reproduce the problem to help solve it. Describe precisely the step you follow to reach the bug. What exact code are you using?
- Exact error message displayed, if any.
- Configuration file (dump of your current parameters)
- As much information about your current setup as possible: position of the heads, environment (reflectors, outdoors, different materials, movement, etc...), use case, etc...
- Saved data