

Battery Replacement Q&A

1.

[Q] Which products are affected and how do we identify them?

[A] We will replace all batteries on the following models:

- MiR100 and MiR200
- MiR100 and MiR200 with two batteries
- MiR500 and MiR1000

No robots after July 2nd are affected, but all MiR100/200 and MiR500/1000 robots that are delivered before launch date are affected.

MiR250 is not affected.

2.

[Q] What is wrong with the batteries?

[A] Due to the deep discharge issue that was identified late 2020, battery cells from our supplier have been analyzed in MiR labs and in external expert labs. The conclusion is that the quality of the battery cells is not acceptable.

The mitigation steps communicated in the safety notice in Q4 2020 do not adequately reduce the risk of fire. However, based on our further analysis, MiR has decided to offer a replacement of all affected batteries free of charge.

3.

[Q] What is the potential risk?

[A] Lithium batteries of sub-standard quality have a risk of overheating, which, in rare cases, may result in fire. We have determined that this risk is unacceptable to MiR and that is why we believe that the most responsible action is to initiate a battery replacement program.

4.

[Q] Have you identified the root cause of the fire hazard?

[A] See question 2.

Addition: After having analyzed the batteries, we have concluded that there is a general quality issue with the batteries, which is the main reason why we have decided to replace all affected batteries.

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[Q] Why did this happen?

[A] Lab analyses have proven that our batteries do not meet the agreed standards. The analysis showed that a proportion of the cells were of sub-standard quality. As a consequence, we have chosen to offer replacement of all batteries.

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[Q] Why hasn't the issue been caught in MiR's quality inspections?

[A] At MiR, we are committed to quality and safety, and with an issue like this we have decided to take this proactive action. We are extremely disappointed with the battery cells in our robots but

were only able to identify the quality issues through extensive lab analyses (including x-ray analyses)

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Q: Do robots that have just been shipped, but with the old batteries, need a software update?

[A] The robots that have been shipped before this announcement also need a software update. Robots that are shipped after May 1 are of high priority to get new batteries. There will be an individual agreement with the MiR partner when to replace the batteries, but if this falls before the deadline to make software updates (August 25), we do not necessarily recommend making the software update too.

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[Q] Do the affected robots represent a safety risk to staff working near the robots?

[A] Previous software updates from September and December 2020 have already reduced the risk considerably. But we still recommend that you follow the instructions in the latest Safety notice. If you perform the software update that reduces the state of charge to 80%, the overheating risk is significantly reduced. If you perform the software update that reduces the state of charge to 50%, you have further reduced the risk.

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[Q] Should we ground the robots in our production until the battery has been replaced?

[A] We do not believe it is necessary to ground the robots if you follow the instructions in the Safety notice, but the decision is ultimately yours. If you perform the software update that reduces the state of charge to 50%, the risk of starting a fire is minimal as there is not enough energy in the batteries to overheat. If you choose the 80% option, then the risk is significantly reduced.

If the software update is not yet installed, you can reduce the risk by monitoring the robots during charging, as the risk of overheating is greatest during the charging process.

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[Q:] Besides the reduced State of Charge, does the software update have any other consequences?

[A] The charging ratio for MiR100 and MiR200 is unchanged and with opportunity charging, we believe that MiR100 and MiR200 can continue the same operation.

The charging ratio for MiR500 and MiR1000 is reduced.

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[Q] How does MiR handle the situation?

[A] *[for end customers]*: We have initiated a program with two main action points that will be carried out with assistance from your local MiR representative:

1) Your MiR partner will contact you to identify all affected robots in your installed base. A software update should be installed on these units as soon as possible.

This reduces the risk of overheating, but also reduces the performance of the robot's battery.

2) Starting from now, we will replace all batteries with new ones, free of charge. When the new batteries become available, your local MiR partner will replace the existing batteries with the new ones.

Due to a limited global supply of lithium cells, new batteries will be delivered in batches subject to availability. Customers with a MiR Service Agreement will be given priority.

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[Q] How should we deal with affected products until the batteries are changed?

[A] It is important that you follow the instructions described in the Safety notice. The software update will reduce the State of Charge to 50% or 80%, which significantly reduces the risk of overheating.

MiR is aware that, for some users, the reduced SoC will affect the production capacity of the robot. MiR will work with our partners to make the optimal prioritization of the replacements.

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[Q] Is the software update a recommendation or is it mandatory?

[A] It is a safety related recommendation that we urge all customers to implement.

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[Q] How long time can we wait before updating the software?

[A] We recommend that the update is performed as soon as possible within the stated deadlines as it is a potential safety risk. Please be aware of any irregularities with your robot, such as sudden discharges or overheating, until the software update has been completed.

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[Q] When can we expect that the battery change will take place?

[A] Due to a limited global supply of lithium cells, new batteries will be delivered in batches subject to availability. We will keep you updated on the progress of the replacement program.

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[Q] How should we handle the replaced batteries?

[A] Please dispose the batteries locally to a relevant facility in accordance with local statutory regulations. locally in an environmentally friendly way through your normal way of battery disposal in your region.

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[Q] Where and when will we get more info?

[A] You will be contacted directly by your local MiR partner when new batteries are ready to ship.

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[Q] Why can't the batteries be replaced faster (now that we know that the existing batteries pose a fire hazard)?

[A] We will do all we can to ship new batteries as soon as possible. But due to a limited global supply of lithium cells, new batteries will be delivered in batches subject to availability. We will stick strictly to top tier suppliers to ensure that our new batteries are of the best quality.

The software update will work to significantly reduce the risk until the new batteries are available.

19 **[Q] Does the battery issue affect new robots shipping from MiR as well?**

[A] No, all robots that are sold after the announcement come with batteries from our new high-quality supplier. These will not need to be replaced or have a software update.

20 **[Q] We have just purchased a MiR robot Y weeks ago? Is my robot also affected?**

[A] If your robot was shipped before the announcement, it will, unfortunately, contain the battery type that needs to be replaced.

21 **[Q] I have double batteries in my robots. Do I get replacements for both batteries?**

[A] Yes.

22 **[Q] I got new batteries after the mitigation in late 2020. Do I need to change batteries as well?**

A: Yes, because these were the same batteries with sub-standard cells.

23 **[Q] What if I don't want to update the software. Can I still use my robots?**

[A] We recommend that you implement the software update as soon as possible. If you need to continue using your robots for a while before implementing the software update, we believe you can do so. However, we recommend that you monitor the robots during charging, until you have updated the software, as the risk of heating is greatest at that point.

24 **[Q] Why have we not been informed earlier if you have been planning this for a few months?**

[A] We have concluded that there is a continued safety risk caused by the sub-standard quality batteries even after compliance with our Safety notice from 2020. As a result, we determined that we needed a clear and effective replacement and update policy before we communicated this program. We have been working hard on finding a solution that can help everyone.

25 **[Q] Can I update my 1-battery robot to a 2-battery robot by getting the slide battery if I pay extra?**

[A] No, we are not able to offer this at this moment.

26 **[Q] While I wait for the slide battery (the replacement battery for robots with two batteries), can I get one of the single batteries in the meantime?**

[A] No, we are not able to offer this at this moment.

27 **[Q] Can I swap for example my MiR200 for a MiR250 and get a good deal?**

[A] Yes, that is possible for MiR100 and MiR200 robots. We have made a Robot Trade-in Program that gives you the opportunity to trade in your MiR100/MiR200 robots and get new robots with significant savings. You can trade-in:

- your old MiR100 and get a new MiR100.

- your old MiR200 and get a new MiR200.
- your old MiR100/MiR200 and get a new MiR250.

28 [Q] What are the prices and terms in the Robot Trade-in Program?

[A] There are significant savings. For end-customers savings are 33-36 %.

29 **[Q] How about robots that are outside warranty?**

[A] All affected robots are included in the replacement program and will get a battery replacement free of charge.

30 **[Q] Will MiR offer any compensation for lost productivity?**

[A] Battery and replacement are free of charge, also for robots outside warranty. Our replacement and update program does not include compensation for potential lost productivity.

31 **[Q] What will you do to prevent similar situations in the future?**

[A] We have contracted with new tier 1 battery suppliers to supply new batteries to replace the old batteries and for all new robot shipments going forward.

At the same time, we have updated our Quality Management procedures including that all suppliers must follow a control plan approved by MiR.

32 **[Q] Can you guarantee that we are not going to see battery issues in MiR products from now on?**

[A] MiR is convinced that the new tier 1 suppliers as well as improved quality management will ensure a high quality in MiR robots. MiR is very confident with the new battery suppliers and the procedures MiR has implemented. MiR will continue to improve the quality internally and throughout the supply chain.

All suppliers must be certified to ISO9001 and must follow MIR's quality control plan. Strategic suppliers will be audited by MIR's Quality team every year.