

How to Choose Your RLC Pilot

A Checklist for RLC Champions and Sponsors

Set the Environment for Success from the Start

I often encounter people who learned about Rapid Learning Cycles some time ago, sometimes even years ago, but haven't yet taken their first steps. They may even have earned their Global Project Leader Certification, but still don't have any direct experience with the framework.

Often this is because they haven't had "the right project" for a pilot, or they're waiting for the right project to get going. In this guide, I'll help you avoid this trap so that you can start getting better results sooner.

The Right Pilot Project Is Not the Perfect Pilot Project

It is important to choose the first pilot project wisely, but it's more important to choose a "good enough" pilot than it is to wait for the perfect opportunity. Too often, teams waste time in long, slow loopbacks for far too many project cycles because they haven't had just the right thing come along.

In this guide, I'll share what we've learned about why pilot projects are so important, the characteristics of the right project —and the right project leader — to open the door for Rapid Learning Cycles in a skeptical organization, what other supports help the team make a good start, and one situation when it's not a good idea to run a pilot at all. I'll share a checklist developed from one that I use when I'm talking with a potential RLC champion to assess viability of a potential pilot team from several different perspectives.

But this is a guideline, not a policy. For almost every "rule" I probably know at least ten teams that have broken it, and been successful. Because RLCs are uncomfortable only at first. Once the cycles start turning, teams don't want to stop.

Why Most Full Adoption of Rapid Learning Cycles Began with a Pilot Project

Change is hard anywhere, but especially in physical product development.

In innovation and product development, teams come together to collaborate across disciplines: Marketing, Finance, Supply Chain, Industrial Design, Testing and usually, at least three engineering domains. This is not a peer group of workers doing similar tasks. Each person has significant professional training and experience in their domain by the time they are assigned to work as their functional representative on an important project.

Each person has a specific position to play on the team, and a rulebook to follow in the form of the group's Product Development Process (PDP) that may be tailored to the group's industry, geographic location and relationships with downstream partners in Production. They all must serve the product team and their domain team.

Cross-Functional Complexity Makes It Hard to Say Yes to Change

With such a complex process and so many stakeholders, changing the PDP can be a challenge. Untested changes can have far-reaching implications for the group, especially those domains that come late in the process like Manufacturing Engineering. Teams may have regulatory requirements, or standards certifications to comply with. All of this makes it hard to say "Yes" to something like Rapid Learning Cycles — especially if a manager believes the only way to run product development is with a traditional, waterfall-based plan, even with all of its problems.

Teams that are open to Agile ways of working have other problems. Almost all of the resources and thought leaders in Agile come from a software background, and don't understand physical products at all. Software teams can see enormous gains in productivity from using Agile Software Development, when it's well-implemented. It's natural to wonder if the hardware teams couldn't experience the same results. But hardware engineers and their managers immediately see that hardware can't be developed and delivered like software. This, too, creates resistance.

Resistance to Change Is Natural Without Lived Experience

Innovators often face the challenge of explaining a new idea in words or sketchy pictures to a customer who just can't imagine it. The solution is to use rapid prototyping to build something three-dimensional, something a new customer can experience, not just see and hear. Even then, their feedback won't be nearly as good in the beginning as it will be after the user's friend down the street has become a customer, and they have some lived experience with it.

Changes to a team's ways-of-working are also hard to talk about in abstract. Until someone has actually been a Key Decision Owner in a meeting with decision makers, it's hard to describe the richness of the discussion, and clarity of the decision. Until a decision maker has received a recommendation packaged with solid knowledge to back it up, it's hard to believe such a framework can deliver such extraordinary results. Almost no one believes, at the beginning, that they'll be allowed to make decisions at the Last Responsible Moment, or that engineers will come to willingly write a report for every Key Decision and Knowledge Gap.

This is the primary purpose of the Rapid Learning Cycles pilot project: to provide an experience with Rapid Learning Cycles in the context of a specific organization, so that product development leaders can make a realistic assessment of whether or not the framework can help them get better results. It helps to understand that it's an experiment.



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How to Set Up a Good Experiment to Demonstrate the Value of Rapid Learning Cycles

Before you can choose a pilot team, it's important to think about how you can ensure that you run a good experiment.

Every Experiment Needs a Hypothesis

What are you hoping Rapid Learning Cycles will do for your organization? What are your product development leaders and their business partners asking for? What do they need the most to demonstrate that Rapid Learning Cycles made a difference?

When my Global Consultant Network members and I sit down with any prospective client, we ask questions like these to get at the reasons why they want to try Rapid Learning Cycles:

- How will you know that Rapid Learning Cycles has worked? What evidence will you look for?
- What will be the value to the team from using RLC? What will be different for them?
- What will be different for the company? How will everyone benefit?
- What will be different for them personally? What do they hope to change?

The answers to these questions help build a shared understanding of how the client thinks about Rapid Learning Cycles and its potential impact to the business, as well as the personal satisfaction that will be earned from success.

You may even want to shape this into a hypothesis: "Using RLCs in the first three phases of development will lead to fewer missed deadlines in late development and lower development cost by 30% by avoiding late loopbacks." That will help you ensure that you run a clean test of the framework.

An Experiment Is a Clean Test

RLC is a lightweight framework. Unlike your PDP or some other frameworks out there, RLC doesn't ask you to rip out your entire process and start over. It's designed to work within the PDP you probably already have, use IT tools your teams already know how to use, and start wherever the team is. But it does have some simple rules, and we know that team leaders who pick and choose which of these rules to follow don't get all the benefits they could have received.

But we're not asking anyone to make a lifelong commitment. We're just asking the team to follow these rules for a few months — ideally the next phase of development or six months, whichever is sooner. After that, the team will know which rules they can safely break, and which ones might need to be tailored. If a team avoids the things that seem hard (often real-time knowledge capture) then they never get a chance to learn how easy it is. If they don't respect the structure, for example by holding Learning Cycle and Integration Events when they feel ready, instead of on a regular schedule, they don't get the benefits that flow from giving and receiving rapid feedback.

This is where it's helpful to go back to your hypothesis, and frame this as an experiment. If the team truly, deeply despises the framework after a few months, they can go back to the way they typically work. They will probably find, though, that once they've seen a Key Decision made at the right time, with the right people, and the best available knowledge, they can't "unsee" all the Key Decisions around them. They can't go back to boring slide decks.



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How to Choose a Good Project Leader and a Good Pilot Project for RLCs

Now that you know why you're running a pilot, and the importance of running a clean test, it's time to start looking for your first pilot project. We start by looking for the right project leader.

The Right Project Leader

A good project leader can lead almost any team through a successful pilot; a poor project leader can turn the best pilot into a failure. Teams will look to their project leaders the moment things get uncomfortable: is the PL really committed? Are they taking shortcuts themselves? Are they telling us we only have to do what we like to do? A good project leader encourages the team to use the process fully, so that they experience the full benefits.

Too much rigidity is also a problem. In early product development, which is where most pilot teams are, plans change constantly. Teams that are new to the framework are on a steep learning curve. Sometimes they learn they missed their most important Key Decision for several learning cycles. The RLC framework expects this; it's why the team updates the plan at the end of every Learning Cycle, with time for adding in new Key Decisions if need be.

Experience with Agile can be a plus or a minus. If the project leader is attached to a specific form of Agile Software Development, they could be challenged by the different ways that RLC expresses agile principles for hardware teams.

The Right Project

The right project is *significant*. This means that your product development leaders have a vested interest in the success of a project. Ideally, it's a "must-win" opportunity to do something that wouldn't even be possible using the team's typical ways of working. It should be at least as large as a medium-sized project in the group. If you have an experienced guide, it can be the most complex project in the organization; RLC has been used on some of the most complex types of research & development that humans do.

If you've had a project failure, it's great to use RLC on the very next project. Nothing sends a stronger message that the leadership team is serious about keeping that from happening again. When the new team sees that they are not making the same mistakes as before, they feel more confident that they're being led in a better direction.

It helps if RLC comes in as early as possible, but RLC doesn't have to start on Day One. In a typical PDP, RLCs are the main project framework through Phase 3, and then it starts to phase out as traditional tools become more important to manage industrialization and launch. We've had successful pilots start as late as the middle of a lengthy Phase 3.

It helps if there are at least some things that are new, unique and/or inherently difficult about the product under development. That helps the team and its stakeholders build experience in the framework, and deliver some immediate results through better decision making. It doesn't have to be an entirely new product. But it should be new enough to require the team to do some learning, experimentation, and prototyping.

If you don't have the perfect pilot team, it's better to get started with the best-fit project you do have coming up in the next six months. Even if it's small, even if it's already started, and even if the project leader will need to grow into RLC leadership.



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How to Use the Pilot Team Checklist to Prepare for a Pilot Team

The next two pages include a checklist for assessing a project and an organization's readiness for a pilot project. But it's meant to help you define a "good enough" pilot, by realistically assessing the gaps that you'll need to close — not exclude teams that are not perfect.

The "Good Enough" Pilot Project

Since I know pilot teams just need to be "good enough" I don't use the checklist to exclude teams or organizations with a few exceptions I note in the checklist. As long as none of those rare showstoppers are in place, we can make it work. We just have to set appropriate expectations.

For example, it's not reasonable to assume that a large pharma group will adopt RLC based upon the experience of one small subteam on one project. That group will need more, and bigger pilots. But that small subteam is a good, low-risk place to start in a complex, risk-averse group where such small-scale success can bring stakeholders on board.

So, we use that small subteam as the first crack in a door that will take more experience to fully open up to RLC.

The First Experience of Success

Since the purpose of a pilot team is to deliver that first experience of success, I use it to look at where the team might need additional support, or where I might need to manage risk to ensure that the team succeeds the first time.

For example, if I know that the organization is curious about RLC but doesn't really have a compelling opportunity or recent experience of failure, I know that I'll need to stay even more closely connected to the leadership to ensure that they are sufficiently engaged with the team, and that they see the new capabilities that are emerging.

If I know the group wants to start with a small project, I know we'll have to work harder to stay visible. If the project leader is new to the organization or new to the role, then I'll need to keep a sharp eye on stakeholder relationships in the weeks leading up to the first Integration Event. Missing tools can be acquired. Misunderstandings about the need for training can be corrected, often by having the person controlling the budget talk to a peer who's using RLCs now. Almost all the time, the gaps are not too big to close.

When Is the Gap Too Big to Close?

There are a few circumstances that are just a bridge too far to be crossed, but they are rare:

- ☐ A pilot project that is so small and insignificant that the experience doesn't translate to a typical program.
- ☐ A project leader wants to do things their own way, and isn't willing to follow RLC closely enough.
- ☐ A project team that is already in mid- to late-development because it's too late for RLC to help.
- ☐ An organization that is in so much trouble that all of its project teams need to be reset at once. Usually, this is because of a change made to the product development system that is not working at all — teams are stuck and there's not a clear path back. Teams like this don't need a pilot — they need a rescue mission.



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The RLC Pilot Project Checklist for RLC Champions and Sponsors

RLC Pilot Project Environment:

- ☐ Leaders are paying attention to the product development process; perhaps because of a major failure or a major market opportunity, and they are willing to commit the resources necessary to support the pilot team in getting the training and support they need.
- ☐ The organization has experienced at least some problems that the RLC framework can address: revisited decisions, late design changes, late-found defects, high warranty costs and field failures.
- ☐ These problems have had sufficient impact to build a sense of urgency in the organization around trying something new.
- ☐ The organization has not made a major change recently that led to problems across the board in product development, such as introducing Agile Software Development into hardware. (When every team is struggling, a single pilot project may not be enough. They may need an Agile Rescue Mission or similar org-wide reset.)

RLC Project Leader

- ☐ The proposed project leader wants to run the pilot project, and sees the potential value for the organization.
- ☐ The proposed project leader has solid grounding in the organization's PDP, and in the fundamental practices of traditional project management (schedules, budgets, risk management, stakeholder management).
- ☐ The proposed project leader is willing to try something new, and understands the value of a clean test of the framework, that can be adapted after the team has mastered the foundation.
- ☐ The proposed project leader is coachable, and willing to take direction from someone external to the organization that may not know the company's core technology but has much more experience with RLCs.
- ☐ The proposed project leader may have had experience with Agile but is not attached to a specific flavor of Agile; ideally, they are curious about the principles that lie underneath all the common frameworks.
- ☐ The proposed project leader has credibility with the team; they will accept direction from the project leader. At the same time, the project leader is looking forward to working in ways that empower team members to manage their own work at the day-to-day level.
- ☐ The proposed project leader has credibility with the organization's leadership and most important stakeholders.

RLC Project Team

- ☐ The project team is sufficiently resourced for the next phase of development. There's always some risk that team members will be reallocated. but the project is important enough to keep this risk low.
 - ☐ Any potential personnel issues, such as ongoing conflicts between team members, are being adequately managed so that they don't distract the team from its important work.

Those are the two most important characteristics of a good team. It doesn't matter if the team is all together or geographically distributed, if they are experienced or new to the company. It doesn't matter if they've worked well together before, or if they don't know each other at all. If we have the right leader and the right support, it all works out just fine.



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RLC Pilot Project:

- ☐ The project is expected to deliver significant value to the company; product development leaders are paying attention to it on a regular basis – ideally a “must-win” for the organization as a whole.
- ☐ The project has “stretch goals” for time-to-market, budget, cost, etc. that will be difficult to meet under typical ways-of-working.
- ☐ The project is close enough to the beginning that there are still meaningful decisions to make, and the expectation that the team will spend a majority of its time in learning activities (including prototype builds) vs. execution tasks (finalizing drawings, fixing defects).
- ☐ The project is sizable enough relative to a typical project that its lessons learned about RLC will be credible models for other project teams.
- ☐ The project represents a business unit, region, product family or other categorization that is perceived to be important for the future of the company. This is why large organizations may need more than one pilot – often each development group needs to prove for itself that RLCs work for its context.

Available Support for RLC

- ☐ The organization’s major decision makers are willing to work with the team within RLC structures for making decisions and receiving information about project status, project health, major risks and upcoming decisions so that the team can avoid preparing off-cycle updates and project reviews.
- ☐ The PDP Process Owner is willing to allow the RLC pilot team to waive some PDP requirements and take a more flexible approach to other requirements so that the team can run a clean test of the framework, even if the team’s approach would not scale if all projects did the same thing. There will be time to address those challenges later on.
- ☐ The group has budget available for training the team, certifying the project leader, and providing RLC facilitation and coaching support based upon the complexity of the project. This usually represents <5% of the project’s budget and will usually be paid back via avoided rework costs in the next two phases of development.
- ☐ The organization understands that the pilot project leader and future project leaders will need to be certified and licensed by the Rapid Learning Cycles Institute in order to have permission to use RLCI training materials with their teams, even if the company is getting external support (this is a legal requirement – a rule that cannot be broken).

Tools to Implement RLC

- ☐ The team has a way to manage a virtual Learning Cycles Plan that the entire team and external facilitators can access. The plan can be in any number of project management tools as long as they are flexible enough to accommodate RLC – some Agile tools are not, but Atlassian’s Jira and Confluence work, as well as SmartSheets, ClickUp, Asana and similar tools. MS Project and other traditional PM tools don’t work.
 - ☐ The team has a way to capture, store and present Key Decision and Knowledge Gap reports that the entire team and external facilitators can access. This can be as simple as a shared drive as long as it can be shared with guests. Confluence is the gold standard.
 - ☐ The team has a robust virtual whiteboard to use for the Kickoff Event.



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How to Connect with a Rapid Learning Cycles Certified® Facilitator for Your Region

How We Support Pilot Teams:

- ☞ We provide Global Project Leader Certification training for the pilot team Project Leader and at least one other person to ensure they are prepared to lead their teams towards good use of the framework, and take over from us when the team is ready.
- ☞ We ensure that the core team gets grounded in the fundamental skills needed through RLC Practitioner Training so that they're prepared to interpret the framework for their own work.
- ☞ We facilitate the Kickoff Event, helping the team work through the complexities of their project to develop an achievable Learning Cycles Plan that maximizes the time and resources they have.
- ☞ We support the team through their first critical learning cycles, so that they form good habits around closing Knowledge Gaps, real-time knowledge capture, effective report-writing and working with stakeholders to make decisions.

We normally participate in team events for the first three months of development, and then the team is ready to be independent. We remain available to the project leader throughout the current phase of the PDP, or next major technical milestone. The project leader can leverage their experience with future teams.

The next wave of teams in a small-to-medium sized group typically just needs to have the project leaders certified as Global Project Leaders, since the first group will have modeled good practices. Large organizations may run multiple pilots, then progress to develop internal trainers and even customized training programs.

About the Rapid Learning Cycles Framework

Rapid Learning Cycles (RLC) is our signature methodology: a product development framework grounded in agile principles tailored for physical products, such as renewable energy generation equipment, advanced materials, energy storage solutions and the other building blocks of a decarbonized society. It works by drawing out the risks and uncertainties inherent to pre-commercial development so that the team can make better decisions to deliver a more mature solution.

About the Rapid Learning Cycles Institute

The Rapid Learning Cycles Institute (RLCI) is a global innovation and product generation consulting firm that is dedicated to accelerating the development of physical products so that our clients achieve higher ROI from their investments in Research & Development, and their teams have the satisfaction of getting their best ideas into the market faster.

We have worked on every continent except Antarctica, and have a growing footprint in climate tech with projects in solar energy systems, wind turbine management, carbon capture and storage, next-generation batteries, regenerative agriculture, biofuels, and advanced materials.



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