



WHITEPAPER

# How to get the most out of the industrial internet of things

Reaping its potential calls for thorough planning



*No question: the market for the industrial internet of things (IIoT) is set to take off. Global predictions suggest IIoT investments will reach \$8.9 trillion in 2020, up from \$2.99 trillion in 2014. What's more, IIoT spending in manufacturing will likely hit \$890 billion in 2020, nearly double the amount manufacturing companies were spending on IIoT investments only four years ago.*

Analysts have noted that multi-billion dollar corporations are investing in IIoT in a big way and hoping to see immediate results. But a substantial number of IIoT projects are failing. In this paper, we'll explore the reasons this happens.

But first, let's review some [survey data from Cisco](#).

- 60% of IIoT initiatives stall at the proof of concept or pilot stage
- Only 26% of companies describe their IIoT deployments and initiatives as successful
- While 35% of IT executives say their IIoT projects were completely successful, only 15% of other business executives agree, suggesting a serious perception gap

What can we conclude from this? I would argue that although many competent people are trying hard to get the most out of IIoT projects, they may be launching them before they have a fundamental understanding of what they want to accomplish. Before they begin, therefore, they should ask themselves:

- Why have other IIoT projects failed or not seen the expected level of return on investment?
- Have we aligned our strategy and approach to the business impact we want to achieve?
- Have all the relevant stakeholders bought in to the project, and will they participate?

Organizations should validate why they're undertaking IIoT projects in the first place (figure 1). Investing to try to keep up with competitors isn't a good enough reason.

These are the killer questions to understand the feasibility of an IIoT project:

- What's the purpose of the project?
- Who will benefit and how?
- Is this a tactical or strategic project?
- Is the change management program robust enough?

- When do we expect to see a return on investment?
- How mature is the existing process?
- What is the state and maturity of the current technology?

IIoT projects differ from traditional IT initiatives because they have a much bigger potential to disrupt existing processes and impact the way organizations operate on a day-to-day basis. Companies introducing IIoT projects may even have to completely reimagine their business models - and that could call for massive change management before the IIoT roll-out takes place.

For IIoT projects to be a success, it's helpful to approach them in the following way:

### Solve a problem the business is interested in

IIoT projects appear to fail for the same reason other digital transformation initiatives do. No matter how big or small the project, it must be relevant in order to succeed. It should address a real need that your stakeholders - and the organization at large - can get behind. Take the time to answer questions. Make management's commitment clear, and make sure the plan has the resources it needs. That's how you'll build a foundation for follow-up projects too.

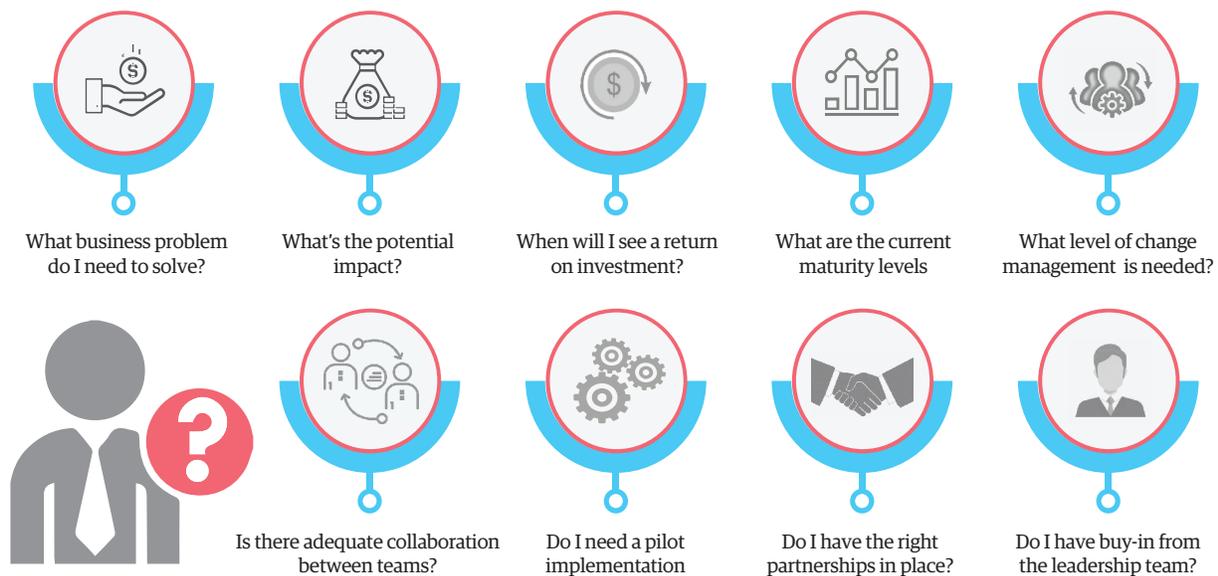


Figure 1: The IIoT self-assessment

## Don't overlook the human dimension - or the need to build internal and external partnerships

IIoT solutions affect teams and business verticals throughout an organization. Partner with those that will feel the greatest impact early in the planning process. Gain their support by seeking their knowledge. Ask what budgets and resources they'll need. Take advantage of their influence to remove barriers during execution. If your firm has a digital transformation or innovation office, work with it. And work closely with IIoT vendors at a deeper level than you would with non-IIoT vendors. Take advantage of their product management and technical support teams. Co-design and co-invest in solutions and projects with them. Tell them what features you want, report bugs, and continually test updated versions of the product.

## Build a team and ownership of the project

IIoT solutions affect multiple teams across the organization. As such, you must create a structure of shared ownership and accountability to drive project success. Identify and secure the commitment of the critical executive sponsors and business unit owners. Align the value and relevance of the IIoT solution to their team's goals and needs to nurture their sense of ownership.

## Anticipate resistance and plan accordingly

The more disruptive the IIoT solution is, the more likely that you will face adoption resistance both internally and externally with stakeholders who may not share your understanding of the project. Whether the changes are small or large, ensure the success of the IIoT project with a change-adoption plan early in the project. Identify who is affected and how they are affected, then understand their objections. Craft a plan to address these objections. Be transparent and communicate regularly - and do so well before the solution goes live. Be responsive and act with a sense of urgency to any concerns raised during the project. Robust change management must be a part of your overall transformation.

## Fail fast and learn fast

Your planning and risk management is based on what

you know. Accept that unforeseen things happen because of what you, your consultants, or vendors don't know. Project teams should be nimble and agile to respond to these unexpected events. Your plans should allow for contingencies. Your sponsors and owners should prepare for change. You should select your project team members for their ability to quickly adapt and learn, as well as for their knowledge and execution ability.

Despite the evidence that many IIoT projects are failing, companies are positive about IIoT's potential and plan to do more with it. Yet they still risk underestimating the complexity of these undertakings (Figure 2).

## The future for IIoT

For many years, the technology has been available to connect sensors to networks so that companies can remotely monitor and control physical systems. But it was not until a decade ago that the idea of the IIoT came to fruition. Since then, there's been a big drive to create a common technology architecture. Yet the concept behind the IIoT is evolving as rapidly as the technology powering it, with new terminology and different applications emerging almost daily.

Right now, an exponential decrease in the cost of IIoT hardware is fueling tremendous interest in its potential. Still, it's significant that while 61% of the Cisco survey respondents believe they have barely scratched the surface of what the IIoT can do for their business, 60% of projects have stalled at PoC stage.

This isn't surprising. Numerous other technologies and evolutions - such as asset performance management, industry 4.0, additive manufacturing, predictive analytics, and robotics - have met the same fate. Indeed, substitute the IIoT with digital transformation [and check out the maturity levels and objectives of most organizations](#)<sup>3</sup>. You'll see they're only scratching the surface there, too.

But with the right approach, as outlined here, the potential benefits are huge. I'd go so far as to say that this connected technology heralds a new industrial revolution.

The IIoT has barely scratched the surface. The potential is huge, but the right strategy is key

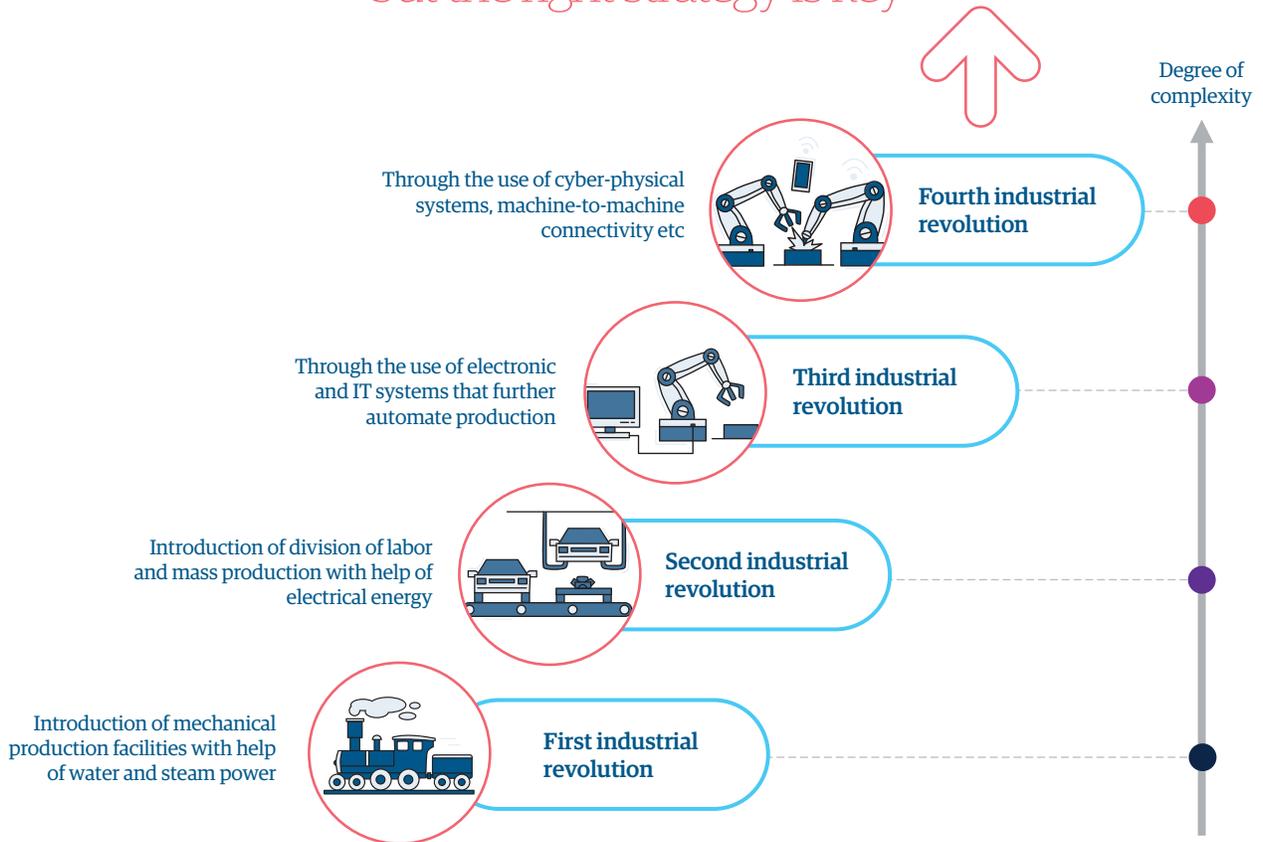


Figure 2: The right strategy and implementation approach can accelerate IIoT transformation

## About Genpact

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