



# THE SOLITON WAY

CELEBRATING  
25 YEARS OF IMPACT  
(1997-2022)



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## AUTHORS NOTE

Rarely do you come across a for-profit company that would choose to commission a research-led impact report for a momentous milestone as its 25-year anniversary. It takes a great deal of courage and humility to allow for such a significant document to be crafted primarily on the basis of the perspectives of the many people that it has influenced and engaged with over the years. As you will read early on in this report, choosing such an approach is entirely in line with Soliton's core values.

We are grateful to the employees (current and former), board members, clients and client partners, and members of the extended ecosystem of NGO partners and college representatives, each of whom generously shared their memories and experiences from many years of working with Soliton. While these first-hand accounts form the primary basis for this report, we have also reviewed numerous internal company documents so as to include more factual and descriptive information where relevant. Through this approach, we have sought to uncover areas of impact that go beyond growth by numbers. Soliton has earned some very special successes over its existence in the last 25 years - a stellar reputation amongst clients, a steep and consistent growth in revenue and the respect of everyone that has worked for and with Soliton. This report seeks to provide some insight into the unique culture and way of working at Soliton that is the foundation of these successes.

As authors of this report, we have also tried to go beyond the most visible successes and tried to identify other specific areas of value that emerged as meaningful and relevant for different stakeholders. It is our hope that these stories and experiences will serve as learning and inspiration for any team that is looking to do what Soliton set out to create 25 years ago, and appears well on the way to doing - a company that is built to last!



**AJAY RAVI VARMA**  
Researcher & Strategist  
*Soliton Alumnus (2007-11)*



**TRUPTI  
SREEDHARAN**  
Communications Consultant

# 01

## VALUES TO LIVE BY





Technologies  
and TI Projects



FOREWORD BY  
**Ganesh  
Devaraj,**  
Founder and CEO

I read the book 'Built to Last' in 1997 and it transformed me. From holding the opinion that only those willing to do underhanded things could build hugely successful businesses to becoming convinced that only those companies built on a foundation of uncompromising core values could go on to become successful and impactful. I was so inspired that I could not wait to start building such a company in India. The values that came to my mind right from the start were integrity and excellence. Over the years we added respect and innovation to our core values

list, because these were implicit in everything that we valued and did.

Over the past 25 years, the way we communicated our values, both internally and externally, has been through our actions: our behaviour in different circumstances, the decisions we took, and the choices we made. We did talk about our values, but only occasionally. There was a very conscious effort to ensure that we demonstrated consistency in small things and large things and, as they say, this made all the difference. And finally, very importantly, we wanted to

demonstrate that our values would lead us to success. This required us to be more deliberate about who we worked with, both inside and outside Soliton. We needed to find those who valued our values, and this was not hard at all.

While we have been successful as a business, where we have been more notable is in the way we

have practised our values and the impact this has made in our circle of influence. Our desire in the coming years is to grow our circle of influence manyfold and be an inspiring example on the national stage. It is our aim to keep striving relentlessly to make our own unique contribution to building up our nation and our interdependent world.

*Ganesh Devaraj*



# sol·it·on

**noun** | a special wave that travels indefinitely without losing its shape or form. A rare natural phenomenon, a Soliton once formed flows essentially forever

# Success is truly valuable only if it is enduring and sustainable.

Every company envisions for itself a particular form of success. Some founding teams set out to change the world through radical innovation, while others are driven towards meteoric growth rates, and still others are motivated by visions of far-reaching influence and repute.

In the case of Soliton, while many of these metrics were relevant from an operational standpoint, we found that there was a larger and more fundamental vision that underpinned all of these. This was the idea that ***success is truly valuable - only if it is enduring and sustainable, and is arrived at in a way that uplifts and carries along everybody that the company engages with.***

The company's name Soliton is a testament to this credo. Studied in the domain of theoretical physics, a soliton is a special wave that can travel indefinitely without losing its shape or form. It is only under some very special conditions that a soliton wave can be created, but once created it appears to break common conceptions of how things typically decay in the world.

After many months of studying the trajectory of the company, we believe that it has been Soliton's emphasis on values and culture that has been providing the right set of conditions for this company of people to continue to thrive.

# integrity. respect.

## ***Speak the truth.***

Share with the other what you would have wanted the other to share with you if the roles were reversed. Trust that if you do right by them, they will do right by you.

## ***Own up to mistakes.***

You know that it is impossible to never be wrong. Allow yourself to be vulnerable, knowing that you will not be taken advantage of.

## ***Deliver on your commitments***

Ensure sincere intent when giving commitments, and then do your utmost to meet or exceed the expectations that you set.

## ***Speak your mind, respectfully.***

True respect is when you share openly with the belief that the other has the capacity to understand you.

## ***Treat everybody with respect.***

Because, why would you not?





# excellence. innovation.

## ***Small things matter.***

Leave your mark of excellence on everything that you do.

## ***Make it a habit.***

Build routines and practices that enable you to keep improving things that are important.

## ***Make your voice heard.***

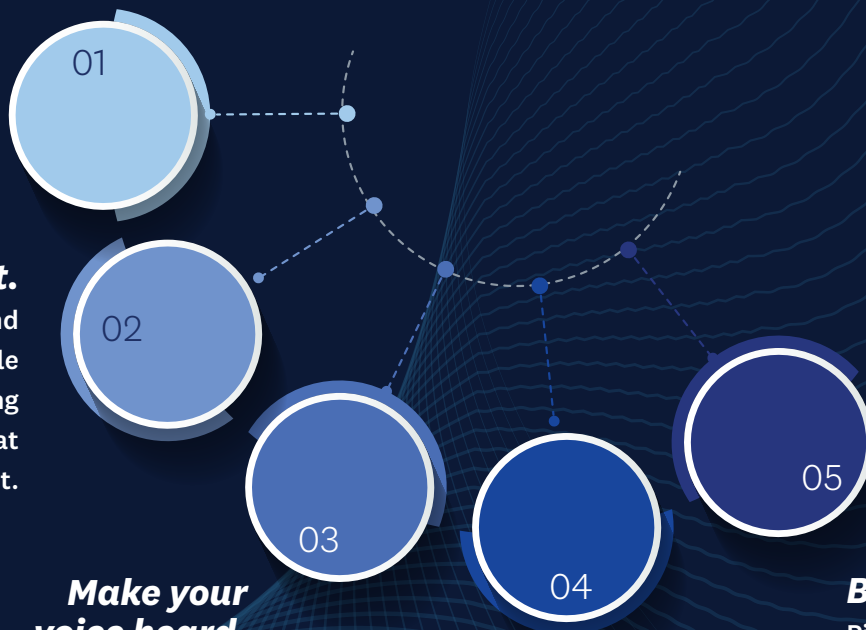
You are unique. Innovation is the difference that you make.

## ***Be a life-long learner.***

Have a growth mindset. Purposeful learning trumps natural (starting) gifts.

## ***Be Bold.***

Pick up tough challenges and believe that you will succeed. That will drive you to innovate.



“

In an agile and complex business environment, having a shared set of core values offers a sense of clarity and direction that is instantly accessible to every Soliton. These values act as clear guardrails of behaviour for everyone in the company, removing the need for excessive supervision and micro-management, and allowing for a high level of independence and agency.

*“The consistency in culture is very evident. The best example is their office assistant cum driver Nanjappan who had already been with Soliton for about 20 years when I met him. You expect a lot of substance from a CEO, but how that translates to employees is where a lot of companies miss the bus. Nanjappan showed the same ethic you see in Ganesh (the CEO). He was never late, always ready to help, and ensured everything was organised. When you deal with him you feel you are dealing with Ganesh”*

SATISH MANCHIKANTI,  
CO-FOUNDER, U&I AND CHANGEPLUS



*Nanjappan joined Soliton in Dec'98 and worked as the office driver until he passed away in July '22 of a sudden heart attack. He personified the quintessential Soliton and is deeply missed.*





Even today, there is a shared and implicit understanding of what actions and behaviours are acceptable, and what are not. We can attribute this high level of coherence to the fact that there is a continuous and collective dialogue on the core values of the company. Everyone is invited to evaluate individual and company practices against these values, ultimately strengthening their resolve to act in an ethical and professional manner, what is informally referred to internally as ‘the Soliton way’.

*“These values are not something that are just pasted on a wall or quoted somewhere. They are demonstrated by Solitons everywhere. I remember one of the first conversations I had with the project leads group; where we were proposing something new. I was asked, ‘Could you please explain the merit; why should we do it in that particular way?’ I was first taken aback – in previous workplaces I had never seen anyone questioning leadership decisions or view points in such an open and casual way. But that’s how Soliton works. Doesn’t matter if the person is two years into work or fifteen years into it. They get to say it, like they see it.”*

LEENA XAVIER  
SOLITON





*Trekking to Marottichal waterfall during the 2017 Soliton annual tour to Cherai, Kerala*

Tough decisions are times when these values are revisited to identify the best course of action. Each of these become formative moments and experiences that individual Solitons carry along with them for their entire careers. This is especially true for young recruits who join Soliton immediately after college; entering a values-first workplace that sets the right tone and priorities for their professional lives.

*“A customer wanted to cancel their contract within two weeks of us starting work on it! I felt responsible because I had left things in the hands of an inexperienced team. I was thinking of what excuses we have for the customer, but after discussing this with the senior leadership, we decided to explain to the customer in very plain and open terms what had happened and asked for another chance. They gave us that chance, and I was able to turn things around. A year later this customer told our CEO that he was so glad that he did not cancel the contract because he would have lost a great partner! That still stands out as one of my proudest moments. If I were not in Soliton, I know I would not have the same level of integrity that I have today.”*

SARANYA BALADHANDAYUDHAM  
SOLITON



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*“Ganesh is my role model. As a young adult straight out of college, you need people to look up to. For me, Ganesh and the values that he was driving was my first look at how people work.*

*I remember being part of setting up the Bangalore office and having to assign the limited cubicles. One of the engineers said he couldn't work on the open table and wanted a cubicle.*

*Ganesh got to know about this. So he began to sit at and work from the open work tables. He operated from there for three months.*

*He didn't say a word about the seating. But the message was clear - where you sit makes you no lesser, no bigger. Everybody is equal.”*

KARTHIK NANJAPPAN  
SOLITON ALUMNUS



*Solitons participating in Soliton Premier League - an internal, 24-hour hackathon*





The collective effort within Soliton to create and maintain a values-first culture has had a ripple effect in the lives of everyone it touches. It has gone a long way in ensuring a respectful, ethical, and egalitarian environment, not only within the workplace, but far beyond it.

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*“The people that came from Soliton and who worked on-site really contributed to the culture at Cal-Bay too. You had Anish and Abdulla who were unflappable in the face of pressure, even from customers.”*

BUCK SMITH  
FOUNDER AND FORMER PRESIDENT,  
CAL-BAY SYSTEMS



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*“When you realise values works well for you at work, you want to apply it in life as well. Now we teach our son these values - be honest at all times. He understands that it takes a lot of courage to be honest but will never let him down. One day his teacher called us about an incident in class. Our son had voluntarily owned up to doing something silly during the class and said he was sorry. The teacher was surprised that a 6 year old was brave enough to own up to his mistake and specifically mentioned that he was being very responsible by apologising for his part in it. She wanted us to keep doing whatever it was that we were doing!”*

SANDEEP AND VIDYA ACHARI,  
SOLITON COUPLE



# 02

## PEOPLE FIRST





FOREWORD BY

**Mekhala  
Devaraj**

Co-Founder and  
Executive Director

As Founders, we always took two responsibilities very seriously - one, to bring the right people into Soliton. And two, that we create an environment that nurtures, encourages and empowers them to become well-rounded engineers and individuals.

Over 25 years, our approach to recruitment from colleges has evolved significantly. There obviously needs to be high standards for technical ability, but we realised that a lot of students

came from backgrounds where they have not had the right kind of exposure, or had faced personal and family crises that never gave them a second chance. So it was always made clear to all college placement cells that the student was more important than the process. Students that showed a spark, students that just needed that third or fourth chance at life, let them into the process. This never meant we lowered our standards.

Our first task with these young minds is always to begin the process of



unshackling them from 15 years of rote learning and creating an environment where they can be daring, creative and confident. Daring because they have not been given such an opportunity where they were able to really explore themselves. It is like they are in the shell of their pupa but so beautiful. They are unaware of their potential and it is their environment that should provide them with all the tools they need to realise it.

So we have made it our mission to create an environment where everyone feels empowered, where they are respected and treated with fairness, and also challenged with opportunities while being given ample inputs and feedback. And when this happens, you really get to see these individuals blossom. That's why I love what I do.

*Mekhala Devargj*





*Soliton annual tour - Goa, 2018*

As an organisation, Soliton strongly believes that its primary role is to create value for the people within it, rather than employ them to achieve a particular target or mission. The business is thus geared to make this company of people successful, and not the other way around. The interesting outcome is that individuals who feel supported and empowered are then, in turn, able to create the greatest value for clients.

*“I have worked with so many different vendors and in most cases it is just a matter of warm bodies being assigned to a project. But that is not what I have seen in Soliton. I think Soliton is extremely unique because there is a family-like culture. I don’t know how it happens but very quickly they feel like a family. That’s not just marketing - it is what I see in the employees. The value that comes from that...you really can’t compute the value of that.”*

MARVIN, CHIEF OFFERING MANAGER LEAD -  
SEMICONDUCTOR VALIDATION AND ELECTRONICS  
VALIDATION & PRODUCTION, NI  
FORMER DIRECTOR OF VALIDATION AUTOMATION  
METHODOLOGY & INFRASTRUCTURE,  
TEXAS INSTRUMENTS

Soliton has adopted a paradigm of 'care' that takes into account the holistic (and evolving) needs of its people including their physical, mental, and social wellbeing. The employee handbook lays this out very clearly - "Family and health first, work next."

The 'people first' thinking extends to everyone that the company interacts with - customers, partners, and suppliers - each person who engages with Soliton should have a positive and fulfilling experience.



Yoga session at a residential leadership development program  
[Right] Solitons celebrating their 15th work anniversary



*"I was facing critical health issues and needed to resolve it as soon as possible. This required me to follow a strict regime and go to the gym every day from 4-5 pm. For a whole year everyone in the team supported me. The senior leadership even highlighted my consistent routine to others at Soliton as an example of commitment to a good habit."*

ABINAYA KANNAN,  
SOLITON



## WORKPLACE FLEXIBILITY

*Freedom to define working hours, including high productivity hours and 'no distraction' hours; so as to release time for exercise, reading/learning, family, and social time with friends.*

## HOLISTIC WELL-BEING

*Apart from standard medical coverage, Solitons can access the services of a professional mental health counsellor, nutritionist, and other health experts.*

## SPORTS

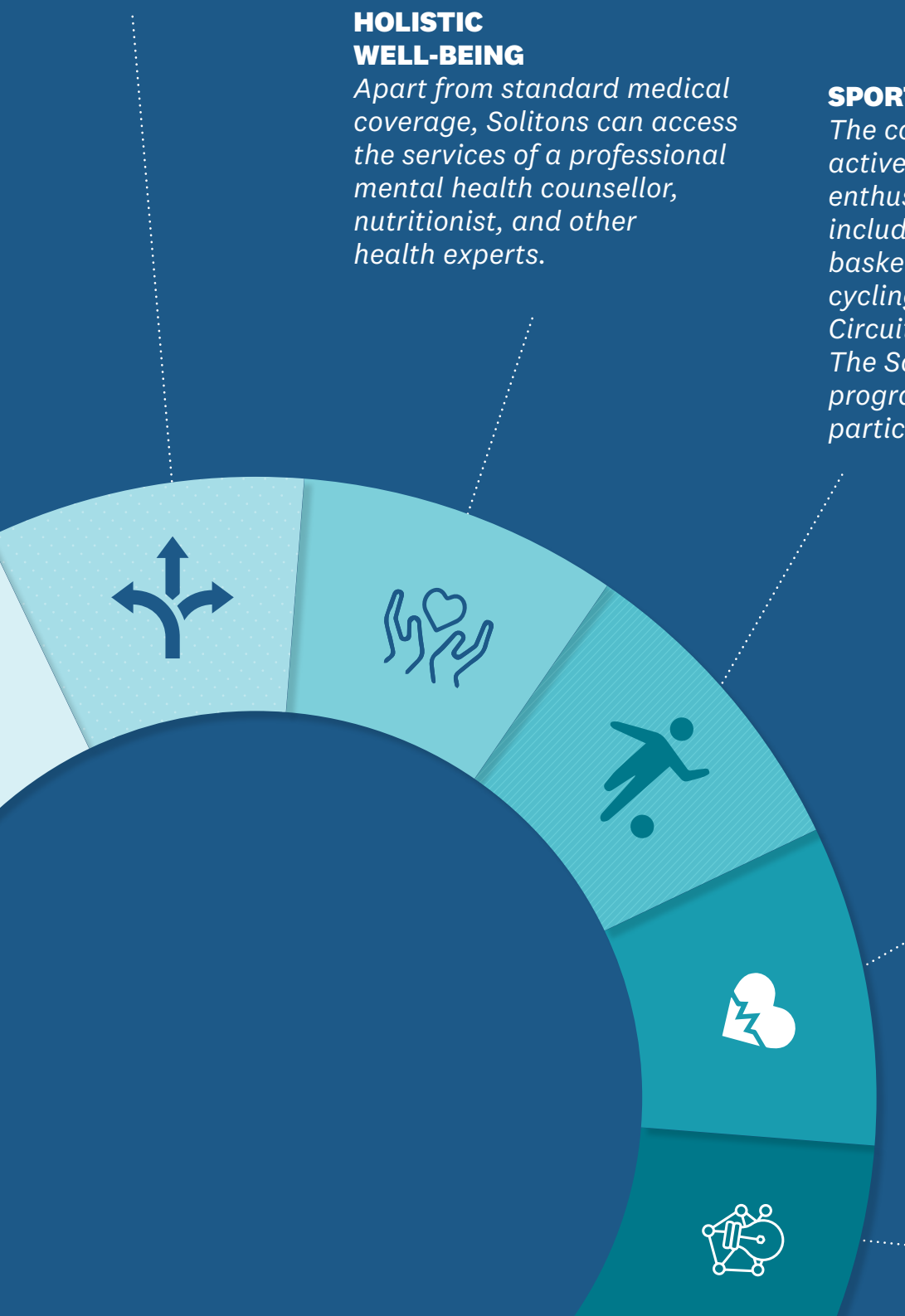
*The company has an active community of sport enthusiasts. Activities include marathons, basketball, table tennis, cycling, gym, Zumba, Devils Circuit, and scuba diving. The Soliton Spartans run the programs and encourage participation and staying fit.*

## FITNESS

*Reimbursement towards health club membership or courses related to aerobics, yoga, swimming, tennis, and the like. Subsidised purchase of cycles and cycling helmets to encourage Solitons to cycle to work.*

## CONTINUOUS LEARNING

*Annual allowances for attending personal and professional development courses. Reading clubs and an in-house library.*





Companies often try to create policies to keep things fair and uniform. But a written policy will always fall short in a particular situation for which it was not designed. In Soliton, the focus is on supporting each and every individual based on their specific needs. As a result they are able to provide levels of support and flexibility to their employees that go far beyond industry norms.

“

*The care that is shown in Soliton, makes you feel you are part of the big family and provides you with a sense of ownership. This is something that you do not see elsewhere! Here at Soliton you are always dared and appreciated to be different!*

VIDYA ACHARI,  
SOLITON ALUMNUS

## ‘OPEN SOURCE’ POLICIES & INITIATIVES

Anyone in Soliton can propose a people-policy and take it to a vote before implementation. Some of the new policies and initiatives that were instituted through this process include: a company-wide shut down between Christmas and New Year, and the set up of a new office in Chennai.

## UNANTICIPATED NEEDS & PERSONAL EMERGENCIES

Soliton makes it very clear to every employee - they can and should turn to the organisation and its people for support. Soliton has provided much needed monetary, logistical, and emotional support in situations of accidents, medical emergencies, or death in the family. Soliton’s timely support has helped individuals through these difficult times in their personal lives.

## FINDING DIAMONDS IN THE ROUGH



*Ganesh, Uthra, and Sairam with the selected students from a campus recruitment*

The emphasis on people starts at the very beginning, right at the time of recruitment. Ninety percent of Soliton's engineers come in as fresh college graduates. Soliton takes a unique stance in this matter - while premier educational institutions are often considered the repositories of the best talent, the company's past experience has proved that merely graduating from a prestigious school is a poor indicator of long term performance in the workplace. A go-getter attitude, high energy, and most importantly, being a cultural fit were a lot more important.

Soliton hires from a number of regional campuses, rigorously examining aspirants for their technical aptitude, communication and collaboration skills, ability to take initiative and problem-solve, and most importantly, their values and principles. Only a precious few make it through. With an intake ratio of <1%, cracking the Soliton Test is a badge of honour for students, one that even Soliton alumni recall proudly after decades. Soliton then provides an environment that values, supports, and nurtures these individuals to their fullest incipient potential.





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*“Soliton has built a brand within colleges with their unique recruitment process, with Soliton’s eligibility criteria, these students are already assured to be top calibre. There is a buzz of excitement around the college when the dates for Soliton’s placements are announced. The departments themselves fix a schedule and start preparing their students. Everybody pitches in. I wouldn’t be surprised if the batch of ‘24 (two years hence) is already preparing for Soliton’s recruitment!”*

**JOSHUA J ROY, Ph.D.**  
**TRAINING AND PLACEMENT OFFICER,**  
**SREC**

Soliton recruitment follows the mantra ‘filter based on talent, hire for attitude’. The Soliton model for recruitment was carefully put together by Mekhala and Ganesh who were themselves present at every Soliton campus recruitment from 1998 to 2019. Ganesh set the question papers and conducted the technical interviews while Mekhala conducted the personal interview to assess cultural-fit. With them were a team of Soliton engineers that administered and graded the written and programming tests. With every passing year, the Soliton team improved on the tests. Mekhala took up the responsibility of establishing relationships with colleges as Soliton grew and needed more engineers. There now exists close coordination and a strong feedback loop between Soliton and the College Placement Cells, to ensure that the best students are identified. The placement officers tell us that, often, it is only after getting recruited by Soliton, that even teachers and classmates recognise the true value and potential of these diamonds in the rough.



## FREEDOM WITH RESPONSIBILITY

Once inducted into the company, the goal is to quickly get every Soliton to a point where they can work with a high degree of independence and ownership. New recruits typically join as interns during their final semester, then undergo a six-week **Training and Induction Program for Solitons (TIPS)**, after which they are assigned to one of the live projects housed in Soliton's internal incubator **Catalyst**. All of these programs are designed to be challenging, requiring them to apply themselves from Day One, and develop effective work habits.

At the same time, they are also given a supportive environment - an environment where reaching out for help, and spending time to learn and explore, are encouraged. This way they begin to experience the 'Soliton Way' and understand how collaboration is encouraged, trust is shown, and freedom is given, with responsibilities being clear.

A clear set of principles (TOWOD) empowers every Soliton to think and act independently, and in alignment with the core values of the company.

*“Usually you see hierarchies in workplaces where you will have multiple levels of supervision and push comes from top to bottom. In Soliton, the push comes from the team itself. Engineers themselves push for tools or support they need to succeed.”*

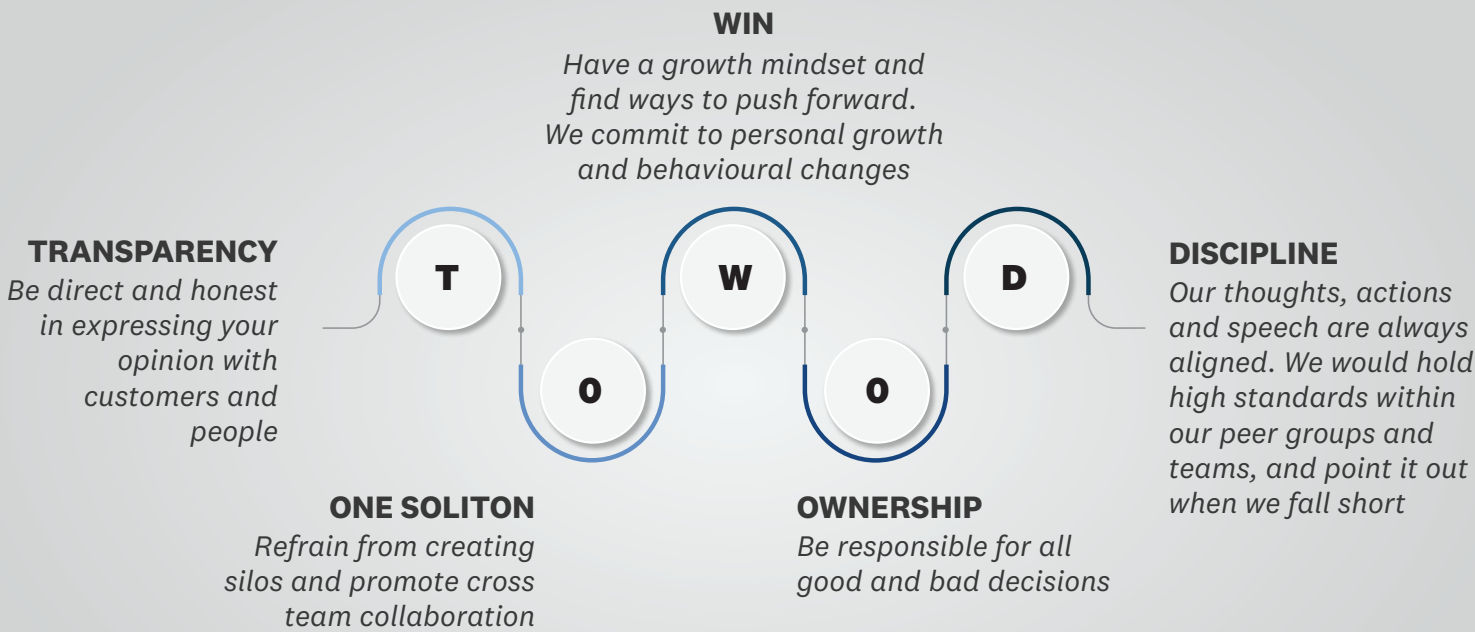
SENTHILKUMAR MURUGESAN,  
SOLITON ALUMNUS

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*When Soliton ramps up junior engineers, they quickly level up both in terms of skills as well as confidence. You know they are fresh, but they are talented and Soliton has taken them through every training possible. Finally, if they stumble, I will never see it because someone has their back and they work it out. That’s impossible to do just through some sort of a mechanical process.”*

MARVIN LANDRUM ,  
CHIEF OFFERING MANAGER LEAD -  
SEMICONDUCTOR VALIDATION AND  
ELECTRONICS VALIDATION & PRODUCTION, NI  
FORMER DIRECTOR OF VALIDATION  
AUTOMATION METHODOLOGY &  
INFRASTRUCTURE, TEXAS INSTRUMENTS

PRINCIPLES THAT GUIDE OUR ACTION



Every month Soliton shares its revenue numbers and order book with all employees. Soliton has also adopted profit-sharing, and how much of the company’s profit will go into the profit share pool is determined using a formula that has been made transparent.





## TIPS

### Training and Induction Program for Solitons

covers a diverse range of topics that goes beyond technical training. Put together by senior Solitons, the training program includes role-playing and scenario skits.

## CATALYST

The **Catalyst** is a program where Solitons propose novel ideas to address a problem that they seek to address, whether that be for themselves or in response to an industry need. Ideas that are given the go-ahead are worked on for 3-4 months before they are released for use. This is the first opportunity for interns to work under the mentorship of Solitons on a live project that does not have deliverables to a customer, and bring it to completion.







## OUTCOMES OF A PEOPLE FIRST CULTURE

The pay-back of a people-first culture is having a team that is performing at maximum potential. Soliton has earned high praise from customers and partners on how they have been able to consistently create a large pool of high performing talent that exceeds expectations. The fact that this praise is coming from the world's best companies who themselves have a high concentration of the world's top talent speaks strongly about Soliton's ability to find 'diamonds in the rough' and make them shine.

Soliton is certified as a 'Great Place to Work' by the Great Place to Work

Institute. At the 25-year mark, Soliton can confidently draw from its wealth of experience and lead the way for newer mid-sized companies that look to create a value-led company that is capable of transforming young people to global talent.

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*“The effort that goes into building a person in the company, kudos to that. I have interacted with many people from Soliton vis-a-vis employees of other partners. If you want to maintain a high performance culture then you have to make sure you are nurturing high performers. I think Soliton is pretty good at doing that.”*

JAYARAM PILLAI, FORMER MANAGING  
DIRECTOR, NATIONAL INSTRUMENTS,  
INDRA (INDIA, RUSSIA, ARABIA)

Soliton is certified as a **'Great Place to Work'**, a certification by the Great Place to Work Institute that is given only to companies that provide a great employee experience across many dimensions. These are excerpts of some responses from the survey that was done in 2022.

98%



Management trusts people to do a good job without watching over their shoulders.



96%

Management recognizes honest mistakes as part of doing business.

97%



Management genuinely seeks and responds to suggestions and ideas.

96%



Management's actions match its words.

96%



People avoid politicking and backstabbing as ways to get things done.



**Solitons in leadership roles are ultimately the triumph of the ‘Soliton Way’. Some of them, having spent their careers entirely in Soliton, have grown up with the company and have experienced what it is to be a Soliton through various stages of the company’s evolution. These home-grown leaders carry forward the values and culture of Soliton, having themselves experienced the important role it has played in their own lives and career.**

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*Soliton has always been conscious of a strong second and third line of leadership. Over the years, I have seen many young Solitons grow and smoothly transition into new leadership roles.”*

ASHOK ARAM,  
BOARD MEMBER - SOLITON

We feature the journeys of a few homegrown leaders at different levels of leadership, with careers in Soliton spanning a decade or more.



# 01

## Anish Mathews,

PRESIDENT

SOLITON TECHNOLOGIES INC. (US Subsidiary)

*Joined in 1999*



*"I was 24 years old when I was responsible for pivoting Soliton's presence in the US. Soliton was starting to cater to the more mature US market for automation, I had less than a year's experience in Soliton and had to figure out a lot of things on my own. But that's the kind of freedom Soliton gave. Soliton had the confidence that I could handle the multiple roles required and represent Soliton to customers in the US."*



# 02

## Saranya Baladhandayudham,

SENIOR PROJECT  
MANAGER,

*Joined in 2006*

*“I was someone who never wanted to take up a lead role since I was working from home. I always had that inhibition that I was the only one working from home while the team was in the office. It all started when I was encouraged to take the lead on a small project, and then after that I was closely mentored by Arjun. Today I manage around 150 people and mentor several project managers. I am now in a role where I do not see boundaries to my responsibilities. I do not want to draw boundaries for myself and neither does Soliton want to draw one for me.”*





# 03

## Sandeep Achari,

DIRECTOR, SALES AND  
BUSINESS DEVELOPMENT

*Joined in 2007*



*"Very early in my career, Soliton allowed me to handle complex engagements independently with customers. It built the needed confidence and ownership to take critical decisions later. At one point I even decided to step down from my role to become more hands-on so I learn to better engage with my customers. I am excited to get reminded of these instances where Soliton has a support system that gave me the power to choose my path and be where I am today."*



# 04

## Vijay Krishna Guru,

DIRECTOR OF SALES AND  
BUSINESS DEVELOPMENT

*Joined in 2009*



*“For my first project, I was responsible for the delivery of one of the largest projects in Soliton at the time. They knew the risks involved in having a fresher shoulder this responsibility, but they put their faith in me and pushed me to take ownership of the project’s success. This boosted my confidence, made me realise what I was capable of, and set my path within Soliton. I have since never shied away from anything just because of the risk of failure.”*

05

# Uthrakumar Arumuganainar

PROJECT MANAGER,

*Joined in 2012*



*“I was part of the Camera Division when the decision to close it was made. At the time, the process by which the decision was made was explained in detail. Later on I found myself in a similar situation with the Embedded Services Division. I was then required to think through the closing of the division like the senior leadership would. We first listed out the people it would hurt the most and charted out how best to help them move on. It took a year, but we placed each and every one of them in the best place possible.”*



**According to the leadership at Soliton, supporting the careers of women in the company fits into the larger policy of supporting every individual based on their unique needs. In the case of female employees, this meant taking deliberate measures to ensure that they could handle their careers along with their other responsibilities. The female employees that we spoke to recognized how their life and career would have taken a very different path had Soliton not provided that extra support when they needed it.**

## **WOMEN IN SOLITON**





*“In 2008 when I got married my husband worked in Delhi and I had to move there, but I did not want to leave Soliton. Before work-from-home was ever a norm, Mekhala offered me such an arrangement. To do this was a huge show of trust from Soliton. Later when I had children I took six months maternity leave and for two years I was working only 50% with no clarity if and when I could get back to a full-time role. This allowed me the time I needed for my family and saved me a lot of undue pressure.”*

SARANYA BALADHANDAYUDHAM, SOLITON

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*“I was not able to work full-time right after delivery. Mekhala gave me a half-day arrangement for a year. This allowed me to continue work. If not for Soliton, I would have had to give up my job and stop working and take a break from my career.”*

SASIKALA THANGAM, SOLITON ALUMNUS

*“It was a full-day for the campus recruitment and had got late by the time it had ended. My father came to pick me up. Mekhala approached him, spoke to him, and this took me aback. I did not expect her to do that but it was a very nice gesture on her part. When I had to move to Bangalore, she arranged my stay with the other girls and Soliton gave me an advance to be able to pay for the deposit towards accommodation. This showed how they took that extra little effort to care.”*

EZHIL SELVI K, SOLITON





## SOLITONS SPARKLE WHEREVER THEY GO

Ganesh and Mekhala at Dallas with Solitons (past and present)

Soliton takes great pride in its alumni's achievements in academia and in their professional careers. Since Soliton has been hiring a majority of its engineers directly out of undergraduate programmes in colleges, many aspire to go on for higher studies after some years of work experience. Soliton alumni have gone on to study at top institutions in India (IISc, IIT, IIM) and abroad (CMU, Princeton), and then gone on to work for the world's biggest brands (Google, Apple, Goldman Sachs). Soliton's diamonds sparkle everywhere they go.

*“We never considered Soliton as a workplace alone. You are enjoying the company around you that isn't dictated by hierarchy. It is also where many Solitons found love. I found my life partner at Soliton. Soliton became an extension of us. We came into work at 8 in the morning and once work was done, we would spend time playing, eating together. These experiences remain with you. Once a Soliton, always a Soliton.”*

KARTHIK NANJAPPAN, SOLITON ALUMNUS

*“Soliton played a pivotal role in my life and career and will always hold a special place in my heart. We continue to keep in touch. We have watched each other's kids grow together. We are a big extended family and share deep connections.”*

SWAMINATHAN KUMARAGURUBARAN, SOLITON ALUMNUS



# 03

## THE ENGINEERING JOURNEY





FOREWORD BY

**Anish  
Mathews**

President, Soliton  
Technologies Inc.,  
(U.S. Subsidiary)

Growing up, my view of business was shaped by my parents and the business leaders of the day. My parents, father, a central government officer and mother, a college professor, had a dim view of business and business leaders. A business leader could only be successful, they said, if they had politicians or government officials in their pockets and pursued only their own selfish interests. With this backdrop, right after college, I entered Soliton. Twenty three years now and boy, what a journey it has been!

Soliton was the place that redefined my view of what a business can and should be - caring, honest, ethical, and valuing all stakeholders. I had a front row seat to see this at Soliton. Be it in key decisions about either entering or exiting a business, Soliton always made sure that the interests of the customer, partner, team and shareholders, were equally considered and valued. Though not explicit in the early days, Soliton Delight, a measure of customer success, team success and profitability, was the unwritten metric that guided the key business decisions throughout

these past 25 years and will be the guiding north star in the future as well.

Soliton's first business LabVIEW software development services checked all three boxes of the Soliton Delight metric and continues to be a key differentiator and revenue contributor. Several service and product offerings since have continued to yield high Soliton Delight scores and remain the main pillars of the business today. Business exits like system

integration, camera and embedded services offered opportunities to reflect and evolve the business.

As I look at the business today, I can see that the small steps of care, respect and value for team members and customers alike, have contributed to a solid foundation. With time, these small steps have resulted in huge strides of impact. By God's grace, I have been a beneficiary of this impact and so have many of you.

Anish Mathews





*Ganesh and Mekhala with Bob Jacobs and his wife. Bob is the Founder of V I Engineering, Ganesh's first workplace and Soliton's first customer.*

Back in 1997, when Ganesh was looking to return to India and set up Soliton, the obvious place to find the first project for his new company was from his employer VI Engineering in the US. He convinced the company's President, Bob Jacobs, to send a project with him to be executed offshore in India. VI Engineering pitched this cost-effective model to their customer Chrysler and secured a project which they subcontracted to Soliton. This was the start of a business line of engineering software exports that has always been reliable and profitable, even through financial slowdowns and pandemics, providing a strong foundation for

the company's growth journey.

Over the years, Soliton's team has grown substantially in both size and capabilities, and the company has expanded into various adjacent businesses servicing industries in India, the US and across the globe. Each of these ventures offered crucial experiences and learnings that have led to the eventual crystallisation of Soliton's business vision and strategy, setting the company up for its next phase of growth and success. In this chapter, we revisit some of the pivotal moments in Soliton's business evolution.

# Virtual Instrumentation

LabVIEW is a graphical programming language developed by Texas-based National Instruments (NI) to enable engineers to turn the general purpose computer into a powerful user-defined test & measurement automation device. ‘Virtual Instrumentation’, as this used to be called, is used in all kinds of industries to validate their product designs and control quality in their production lines, and in research labs across the globe to perform sophisticated measurements.

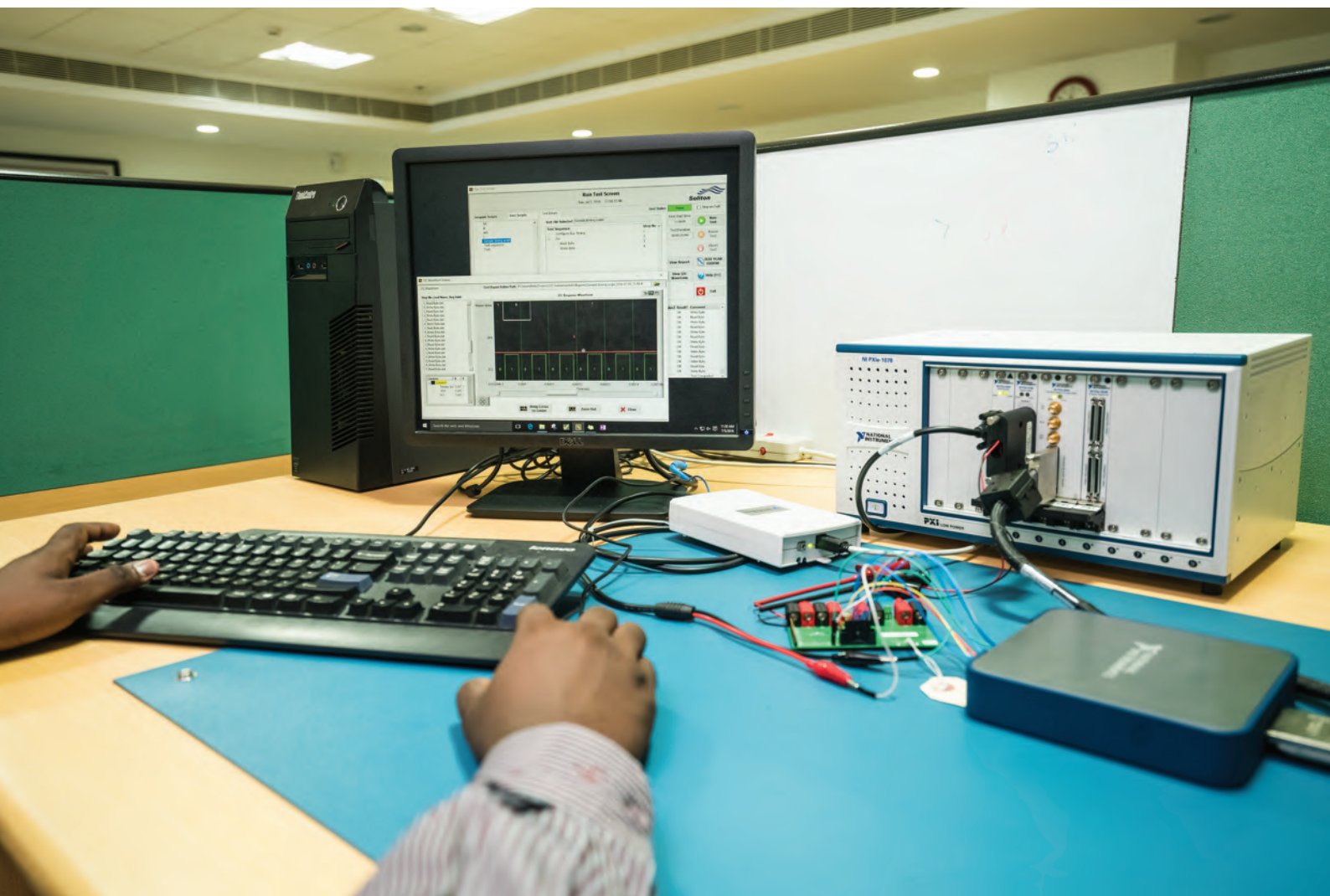
At the turn of the century, Indian manufacturers were still trying to compete with global products. Automated testing was critical to ensure quality at every stage of production, but this was an unfamiliar investment for industries that were used to depending primarily on manual labour for these processes. The Indian market thus needed a lot of education and hand-holding to build the highly accurate and reliable solutions that virtual instrumentation enabled.

Soliton became NI’s first Alliance Partner in India and, as a ‘system integrator’, was required to weave together the virtual instrumentation hardware, sensors, actuators, and develop the software programs to create customised automated testing equipment for each customer. Soliton’s clientele in India included companies like Pricol, GE Medical, Brakes India, Hindustan Pencils, ELGI Equipments, Ford India, BARC, and ISRO. Soliton went on to develop many sophisticated automation solutions that were recognised by NI in its global ‘Application of the Year’ award contest. In the year 2000, Soliton won the global ‘Best Application of the Year’ award from NI, no small feat for a company from India that had started its operations only two years prior. In 2001 and again in 2004, Soliton won the global ‘Best Application of the Year’ award. **Soliton holds the record for being the only company in the world to win this award more than once.**

While the system integration business grew in India, it was not profitable

enough to justify continued investment. In 2004, Soliton decided to exit the integration business and focus on creating advanced software solutions using LabVIEW for companies in advanced economies who were used to paying top dollar for such engineering services. Soliton spent all of 2005 helping its customers in India transition successfully to a

new service provider. And Soliton did this on its own cost earning the good will of its customers. Soliton has since established itself as a leading global provider of LabVIEW software services and as of today, has the **most number of NI certified developers and architects** of any company in India and ranks globally among the top.





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*“When you get one good partner that you can work with, you just latch on to them. I had tried working with other automation partners and it never worked out. Ganesh wasn’t just technically great. He was easy to talk to and work with, and so was the team. It is the top person that sets the tone for everyone in the company.”*

VISHWAPRASAD ALVA,  
FOUNDER AND MANAGING DIRECTOR,  
SKANRAY TECHNOLOGIES  
FORMER HEAD,  
TECHNOLOGY INTEGRATION,  
GE HEALTHCARE

“

*“Given that we are inherently an R&D organisation, a lot of what we develop does not have concrete specifications so what we really appreciate with Soliton is they are really agile.”*

JOHN RAMTHUN,  
ADVANCED SPECIALIST, 3M

## FIRST NI ALLIANCE PARTNER IN INDIA

National Instruments (NI) set up their direct operations in India in the backdrop of India's nuclear testing in 1998. The nuclear testing attracted sanctions from the US and Europe which meant that US companies could not do business with organisations that came under the list of sanctions. This included all the defence and aerospace organisations which were the primary customers of NI in India up until that time. Since this was not an option anymore, for the first time NI had to look to the general manufacturing market in India.



■ Ganesh and Jayaram Pillai (to the right) sharing a light moment during an NI Week Conference.

“

*“High quality system integration became essential for NI to succeed in India. The onus of establishing credibility and proving that this actually provided great value was on Soliton as the NI Partner. Customers were ready to adopt this expensive technology only because Soliton was able to fill that gap between what they wanted and what NI was offering. Soliton was able to build credibility with the customer so much so that they saw Soliton as their proponent.”*

JAYARAM PILLAI,  
FORMER MANAGING DIRECTOR,  
NATIONAL INSTRUMENTS, IndRA  
(INDIA, RUSSIA, ARABIA)



PRICOL/SPEEDOMETER  
CALIBRATION

The automotive parts manufacturing industry of India was one of the first to recognise the value of virtual instrumentation, as the industry was reaching a stage of maturity that required them to step up their quality processes.

Pricol, a leading manufacturer of automotive instrument clusters, was eager to develop a fully automated calibration system for speedometers in its production line. Soliton demonstrated a proof-of-concept solution in just 30 days (using Ganesh’s home camcorder because they did not have ready access to a machine vision camera!), and then built out the system and proved it on the production line. Over the subsequent years, Pricol placed multiple repeat orders for automated calibration systems, and many other automation solutions.

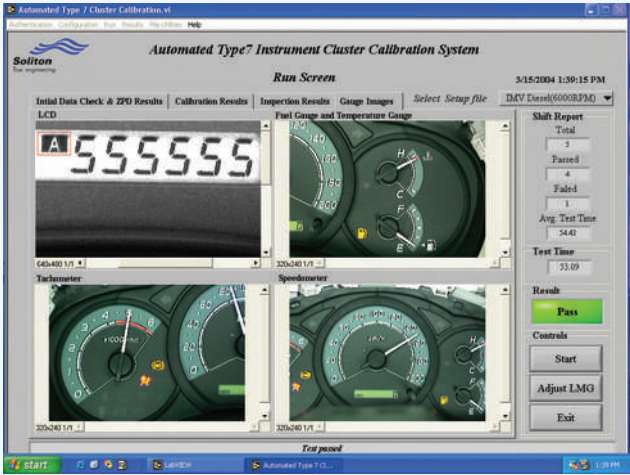


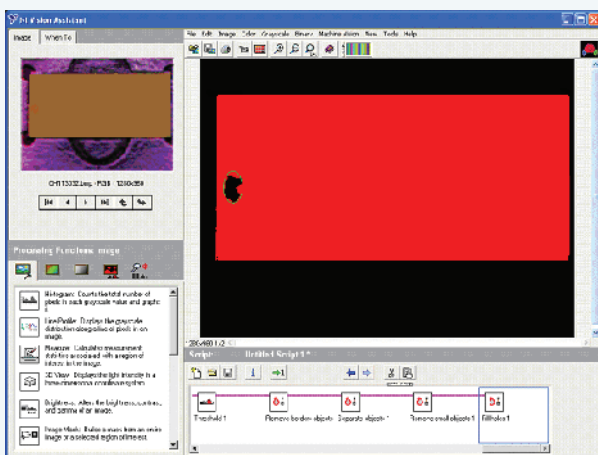
IMAGE 1 : Soliton’s machine vision application featured in a global automation magazine.

IMAGE 2 : A screenshot of the LabVIEW-based application developed for Pricol to inspect and calibrate automotive dashboard indicators and instruments using machine vision technology.



## GE MEDICAL

Another important customer for Soliton was GE Medical Systems in Bangalore. GE Medical was setting up new manufacturing facilities in Bangalore and started by importing the Automated Testing Equipment (ATE) for their production lines from their global manufacturing facilities. But once Soliton proved its capabilities by developing an ATE for their X-ray tubes manufacturing line in record time, GE started to place their orders with Soliton to develop ATEs for their production lines manufacturing critical components and systems for various modalities including X-Ray, CT, MRI, and Ultrasound.



**IMAGE 1:** Soliton developed a highly reliable and configurable system using the brand-new LabVIEW Real-Time technology to monitor vacuum furnaces used to degas X-Ray Tubes. **IMAGE 2:** Screenshot of application used to develop the algorithm for detecting defects on x-ray ceramic matrices; was used to replace the manual inspection with automation.



## AWARDS

Every year National Instruments held an event called the NIWeek, an automation and measurement conference in Austin, Texas. Soliton went on to win the most number of 'Application of the Year' Awards and made its mark in the industry for its excellence and innovation.

*“I remember that the first year we won an award, the runner up was an entry from Honda R&D and I was astounded that we, a tiny company with a few engineers, had come up ahead of a global giant!”*

GANESH DEVARAJ, SOLITON



“

*“When Soliton started submitting their work to NIWeek, all of us at NI were very excited and proud to showcase them. Their success was our success - an example of the high quality of virtual instrumentation work that was happening in India. After my stint in India, I took on other regional and global responsibilities, where I had visibility over system integrators in other parts of the world. Soliton always stood out as that rare system integrator who was always committed to the highest levels of engineering excellence.”*

JAYARAM PILLAI,  
FORMER MANAGING DIRECTOR,  
NATIONAL INSTRUMENTS,  
IndRA (INDIA, RUSSIA, ARABIA)

IMAGE 1: Ganesh Devaraj and CTO Anand Prasad Chinnaswamy receiving an award at NIWeek 2001, the global software-based measurement and automation conference, from Dr. Truchard, Co-Founder and CEO of NI.

IMAGE 2: The Soliton team in front of their stall at the NI conference in Bangalore - 2003.



# Machine Vision

From early on, Soliton had employed machine vision for its system integration projects - projects like the automated speedometer calibration system (for Pricol) and the high-speed pencil sorting system (for Hindustan Pencils) incorporated industrial cameras. Soliton soon began to be recognised widely, and especially by National Instruments, as being the best in the machine vision space in India.

When the system integration business was being phased out, Soliton decided to build on its expertise in machine vision, and channelled the team's energy into the design and manufacture of what would become India's first industrial machine vision camera. In less than a year, led by then CTO Anand Chinnaswamy, a team of young, talented and passionate engineers designed and field tested the first Soliton camera. By the next year, these were deployed in existing and new systems, and often performed better than the imported cameras that they replaced.

*“They [client] were initially apprehensive about replacing Sony industrial cameras with Soliton cameras in the next system that we were building for them. But our cameras proved reliable and also increased the accuracy of the overall system because we used a higher resolution image sensor. News spread quickly in the client company that the system fitted with Soliton cameras was outperforming the one using Sony cameras!”*

GANESH DEVARAJ, SOLITON

“

Despite having a stellar product, Soliton encountered the same challenges that other industrial product companies were facing in India. The success of the technology depended entirely on the ability of system integrators to effectively use these cameras to build machine vision solutions for the end customer. Soliton initially tried to upskill automation companies by running monthly training workshops for engineers from different parts of India (and even some from Sri Lanka). But this didn't appear to be sufficient, since the market was taking a long time to mature.

## CASE STUDY PENCIL SORTING SYSTEM

In the early 2000's Hindustan Pencils was planning to double their production of wooden pencils. At the time, they employed 60 people to manually inspect every pencil, but now wanted a machine that could inspect and automatically sort, by defect type, close to 2 million pencils per day.

Soliton designed an inspection system where pencils went onto a high-speed conveyor and were inspected by two cameras placed at both ends of the pencils. While the system performed well after commissioning, after a year the high-end imported cameras that were used in the system began to fail repeatedly. These were then replaced with Soliton's recently developed cameras, and they kept functioning without any issues. This was a crucial validation for this new product. The complete pencil sorting system can be seen in this video.

“

*We were importing cameras from Basler, Germany which was the best machine vision camera manufacturer at the time. They ran well for a year and then started to fail. These were expensive cameras and it would typically take two to three months to have them repaired. When we told the customer that we would replace them with Soliton cameras, they were willing to try. We waited in anticipation and our cameras kept functioning without any issues. That's when we realised that we were capable of building a world-class product if we put our mind to it. ”*

KARTHIK NANJAPPAN, SOLITON ALUMNUS



Building the pencil sorting machine for Hindustan Pencils that used machine vision to inspect 23 pencils per second and sort out pencils that had defects.

In 2007, Soliton launched the first ‘smart’ camera, which incorporated both the hardware and the software of a machine vision system, making it much simpler for system integrators or even manufacturers themselves to use. Over the next few years, newer models of the smart camera were released but the sales in the Indian market fell short of expectations, and competition was stiff from global smart camera manufacturers. Soliton was more successful in the OEM market where they worked closely with equipment manufacturers to develop customised machine vision solutions in domains such as cashew sorting and print colour registration.

As Soliton’s other businesses grew rapidly, the camera division’s contribution to total company revenue tapered down, and in 2019 the business was eventually passed on to the then manager of the division so that management bandwidth at Soliton could be invested in areas that were growing strongly.

*“We did everything from scratch for the smart camera - hardware development which was both mechanical and electronics, then the algorithms for image processing, the user interface and the specialised applications developed on top of it. This was a very exciting period of learning and discovery. An end-to-end product development of this kind that was completely in-house was a rare occurrence in India at that time.”*

**MANISH SHIRALKAR & GITESH GEORGE LAZAR,**  
SOLITON ALUMNI WHO LED DIFFERENT PARTS OF  
THE SMART CAMERA DEVELOPMENT



IMAGE 1 : Coverage in 2007 by The Hindu of the launch of ‘Spot It’, India’s first indigenously designed and manufactured smart camera for quality control in manufacturing

IMAGE 2 : Gitesh George Lazar and Kalaivani Sundararajan posing for a photo soon after the ‘bring up’ of Spot-It, Soliton’s first smart camera - 2007



## CASE STUDY

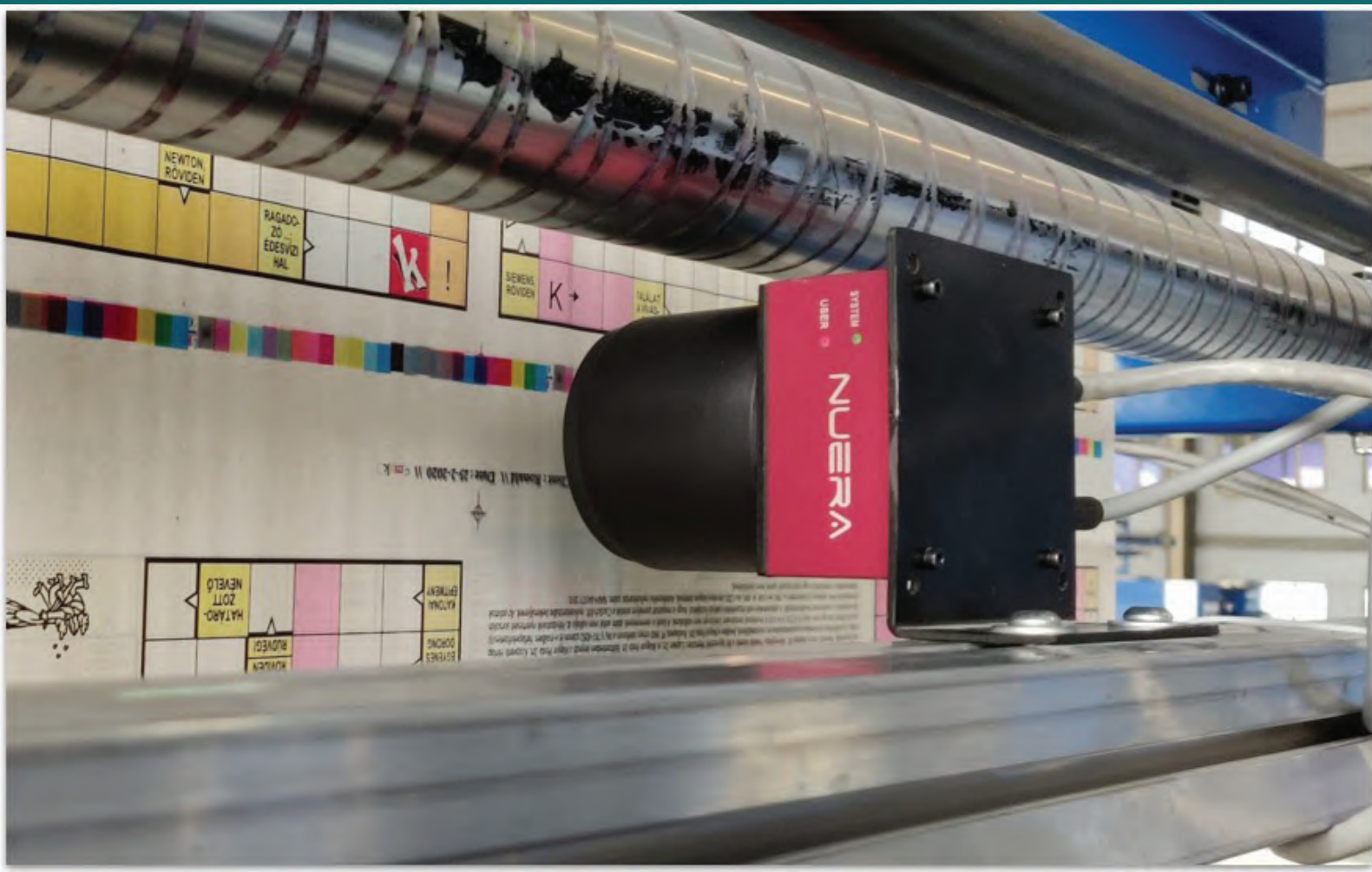
# PRIM

PRIM was a colour registration system for offset printing machines that are used to print newspapers. The systems sold in India came from the two world leaders in this space, one from the US and one from Europe. They were expensive and so one printer wanted Soliton to develop an alternative. Soliton's R&D engineers spent months in the press working the night shift

(when the newspapers would be printed) before creating PRIM - which achieved registration faster than the systems from the world leaders, and reduced up to 80% of the paper wastage.

[Click here to view the PRIM working at the Manugraph Cityline Express](#)

*Soliton's fourth generation camera 'Neura' fitted on to a print registration system*



# Standardisation in the Semiconductor Industry

Soliton first started working with the semiconductor industry by developing customised LabVIEW solutions for the post-silicon validation of individual chips. Every year, semiconductor companies design and release hundreds of chips that find their way into all kinds of electronic products. The design of each of these chips needs to be thoroughly validated in the lab, and Soliton developed the software that controlled all the instruments to measure, record, and analyse how these chips performed under various input and environmental conditions.

In 2008 one of Soliton's customers, one of the largest semiconductor companies in the world, wanted to standardise the software tools used by hundreds of their validation engineers to promote more efficiency and reuse. Getting engineering teams to adopt a standard, and start using each other's creations is no easy task. Working closely with the leader of the initiative, Soliton

brought onboard one group after another by demonstrating success in their projects while building up the reusable assets from these projects. This careful methodology resulted in the user adoption growing exponentially. It looked slow at first, but the steady compounding made the success very evident as time went on.

This level of standardisation required a transformation not only in engineering processes, but also in the way that R&D engineers worked. To facilitate this transition, Soliton created extensive training material, support channels, and even seeded a community forum that would consolidate and disseminate best practices from across their many global teams. This scale of organisation-wide standardisation was a first in the dynamic and fast-paced semiconductor industry.

Soliton leveraged the learnings from this experience to create customised software frameworks and facilitate the standardisation process in other large

semiconductor companies. In 2020, Soliton entered into a strategic partnership with National Instruments (the creator of LabVIEW) and is currently jointly developing a software product that can be delivered to the semiconductor industry as a whole.

“

*“The client teams were going to change the way they did things only if they were fully convinced. We needed to show them that this was a more productive way to validate the chips. So there was training, then support and handholding after adoption of the framework. We travelled to cover all of their sites across the world, our training was rated highest by their engineers across the organisation, and we received a prestigious supplier excellence award from the customer.”*

**SASIKALA THANGAM,**  
SOLITON ALUMNUS

“

*The reality is that it takes a certain level of expertise to pull off this level of standardisation and Soliton was just the organisation for the task. Soliton showed a lot of faith in my roadmap and saw us through thick and thin. It took us 12 years to achieve the pinnacle of how this (standardisation) would work and now we are on the road of scaling that to the entire industry in half the time.*

**MARVIN LANDRUM, CHIEF OFFERING MANAGER  
LEAD - SEMICONDUCTOR VALIDATION AND  
ELECTRONICS VALIDATION & PRODUCTION, NI  
FORMERLY, DIRECTOR OF VALIDATION  
AUTOMATION METHODOLOGY &  
INFRASTRUCTURE, TEXAS INSTRUMENTS**

“

*“We needed to develop standardisation in the evaluation labs and Soliton has been instrumental in that process over several years, working directly with individual lab teams and developing a common framework that is now supporting many diverse teams. We have seen the tools as particularly useful during company mergers as it is scaled for global use within the company.”*

**JOHN CAMPBELL, SENIOR DIRECTOR, TEST TECHNOLOGY & SYSTEMS, ANALOG DEVICES**



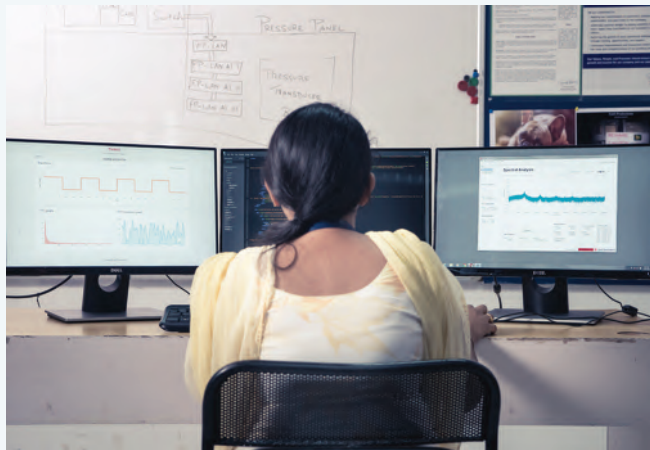


IMAGE 1: Soliton's demo in its stall at NIWeek 2018

IMAGE 2: Soliton engineer developing the GUI for an audio signal processing chip

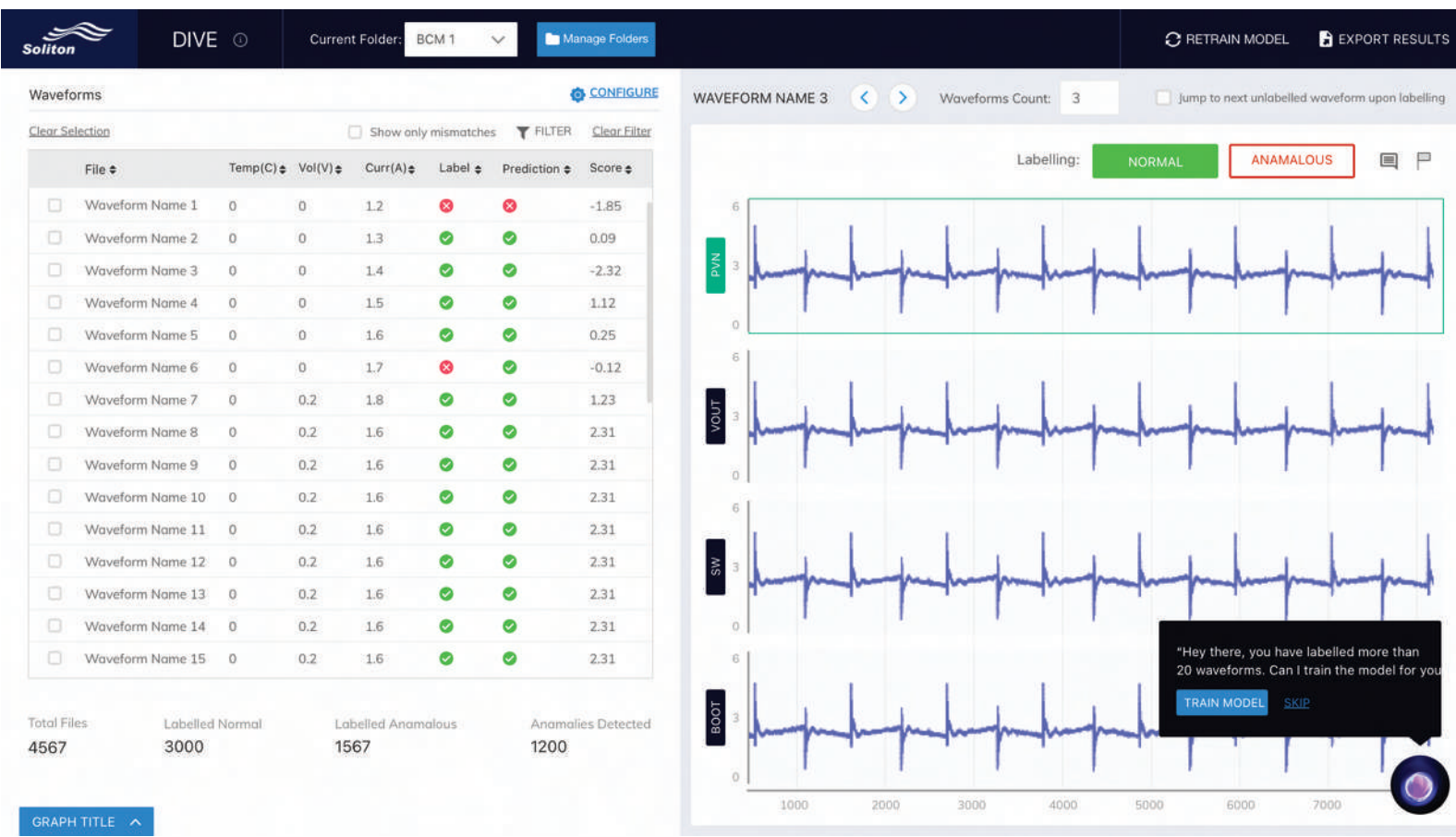
IMAGE 3: Soliton engineer developing a LabVIEW application for an automation system

# ENGINEERING WORKFLOW AUTOMATION

In recent years, Soliton has been broadening the scope of its services to cater to the fast sweeping data analytics and machine learning revolution. Through the development of enterprise scale applications, Soliton supports product companies and manufacturers in automating their engineering workflows and

data management systems. One of the goals is to automatically tag and store data captured in various processes so that it can be more readily used in data analysis using AI/ML. This is now a fast-growing business area for the company and Soliton sees this as an important growth driver as it expands its customer base.

Rapid visualization and machine learning enabled anomaly detection in waveforms



# Looking back, lessons learnt

What has guided Soliton through the years has been a commitment to creating value for all parties involved - best-in-class engineering for the clients, challenging and fulfilling work for Soliton's engineers, and profit for the business. The road ahead for Soliton is bright as their technical expertise and ties with industry grow deeper with time, and the appetite for meaningful innovation continues to burn strongly within the company.

For anyone looking to learn from Soliton's business evolution journey, it is important to remember that the road to sustainable success was not a clear and straightforward one, and the significance and impact of certain decisions are often evident only in hindsight. Some of their learnings over the last 25 years are invaluable for any team setting out to create a company that is built to last.





# ASK THE CEO

## **01** ***Why did you decide to exit the system integration business in India?***

We had always aimed to hire the very best engineers we could attract and we wanted to ensure that we were paying salaries that were commensurate with their talents and abilities. Right from the start we saw a difference in what the US customers were willing to pay for engineering time and what we were able to charge in India. But sales was easier and cheaper to do in India because of the proximity. So we developed our business in both markets. In 2004, we saw that global companies were setting up their R&D facilities in India and hiring LabVIEW engineers at high salaries. We realised that if we wanted to keep our engineers, who made up the best LabVIEW talent in the country, we needed to pivot entirely to serve the US market and other markets that would pay us higher billing rates.

I am also very proud of how we took care of our customers as we exited. We explained our reasons and told them that we would not leave them high and dry. We took a full year to do a careful and complete hand over with training to the new vendor, and we did this on our cost. Looking back, this was the right decision. Although we incurred two years of loss, we were able to grow our business profitably from 2007. And very importantly, we also left our customers on good terms. While they were disappointed that we exited, they sincerely appreciated the way we went about it.

## **02** ***What were the lessons learnt from the machine vision camera business?***

When we made the decision in 2004 to start, our world view was that in a few years, smart cameras would be ubiquitous enabling a lot of smart automation. We thought that we could take our first step into this future by designing a machine vision camera and building our experience. Our differentiation would be that we are an Indian manufacturer and users in India would get better support and quicker repairs. We had already experienced long turn-around time when the machine vision cameras we had imported, had to be shipped abroad for repairs. This decision was a mistake for multiple reasons we understood later.

“

***The demand was for complete machine vision solutions and not the cameras by themselves.***

“

The ecosystem in India was not mature enough. The demand was for complete machine vision solutions and not the cameras by themselves. There were not enough system integrators in India to develop the solutions, and so we ran training programs to increase the capability and capacity in India. But it was too slow a process, with no notable improvement even after years of effort. Instead, we should have been laser focused on solving the immediate market needs in the most efficient manner.

### **03** *We understand that Soliton also started and closed a couple of other business lines along the way. Could you tell us more about this?*

**“**  
*Unless a business area keeps growing and there are new challenges and growth opportunities for the people involved, it will not be sustainable.*  
**”**

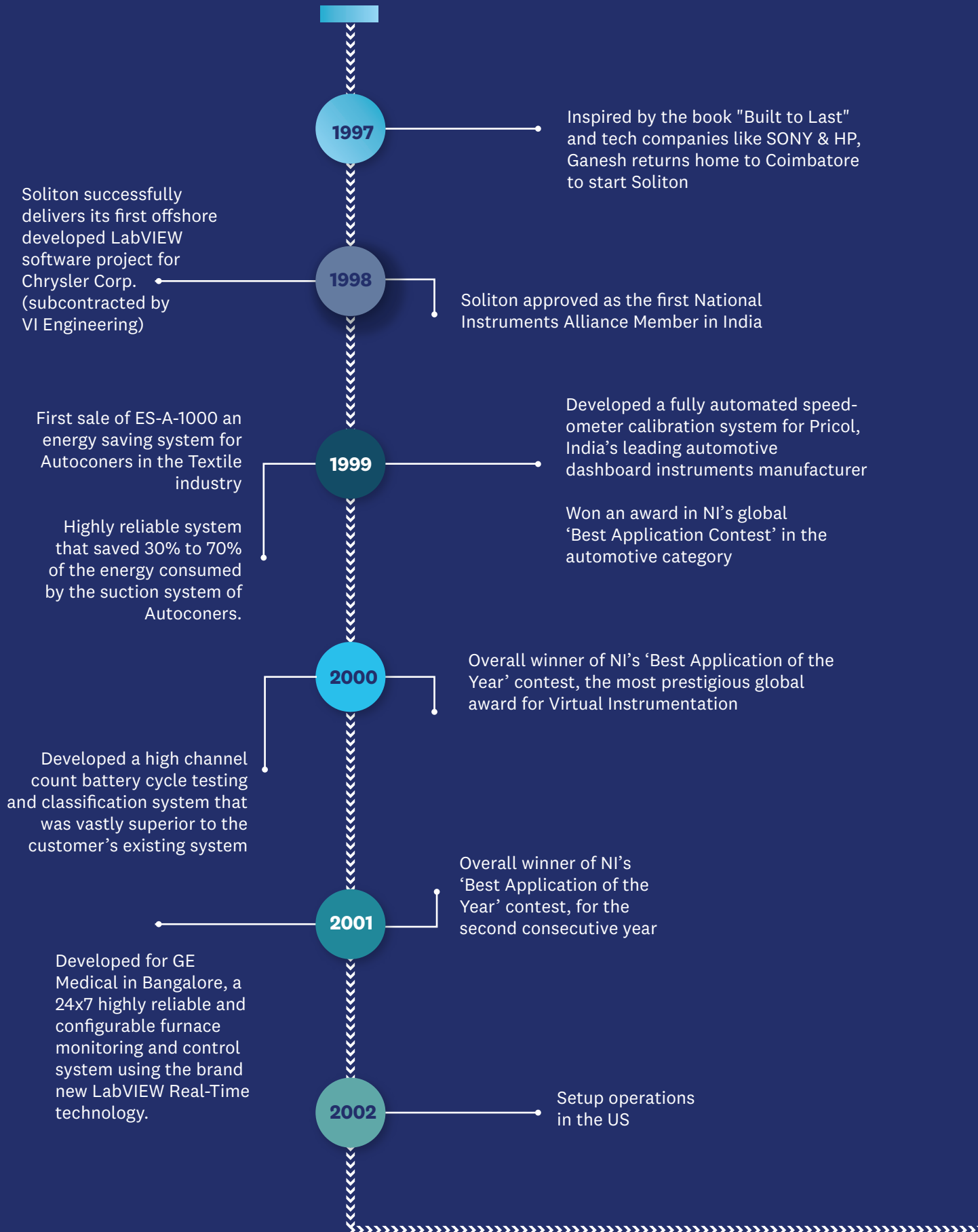
When the camera sales did not take off as expected even after many years of investment and effort, we moved most of the R&D engineers from our camera design team to FPGA design services for one customer. This worked well for many years, our engineers did a good job and this business was profitable. But we did not focus on expanding this division with sales focus, because we were getting enough enquiries from our automation software business and our sales focus remained there. Over time this division started to face challenges with the



senior engineers leaving because they were not getting new challenges and new learning opportunities from this one customer engagement. We had a similar experience in one more business line as well.

For a business line to sustain and thrive, all the key leadership roles (technical, sales, and overall business leadership) need to be filled with dedicated bandwidth (as opposed to shared bandwidth). Unless a business area keeps growing and there are new challenges and growth opportunities for the people involved, it will not be sustainable.

# BUSINESS TIMELINE



Added web technologies, computer vision, machine learning, and data analytics divisions; developed end-to-end IoT product design capabilities

2013

Added FPGA design services; developed a versatile evaluation platform for high-speed data converters

Added GUI development services for chip evaluation by system designers

2011

Started working on an ambitious project for a large semiconductor company that wanted to standardize the software tools used in post-silicon validation of analog, mixed signal, and RF chips

2008

Soliton's Smart Camera demonstrated at the Worldwide TI Developers Conference (TIDC) held in Dallas.

Launched India's first indigenously designed and manufactured smart camera

2007

Started working with the semiconductor industry to provide automation software development services for post-silicon validation of chips used in mobile phones

2006

Launched India's first indigenously designed and manufactured industrial machine vision camera

2005

Soliton demonstrated India's first Machine Vision cameras at the TI Developers Conference

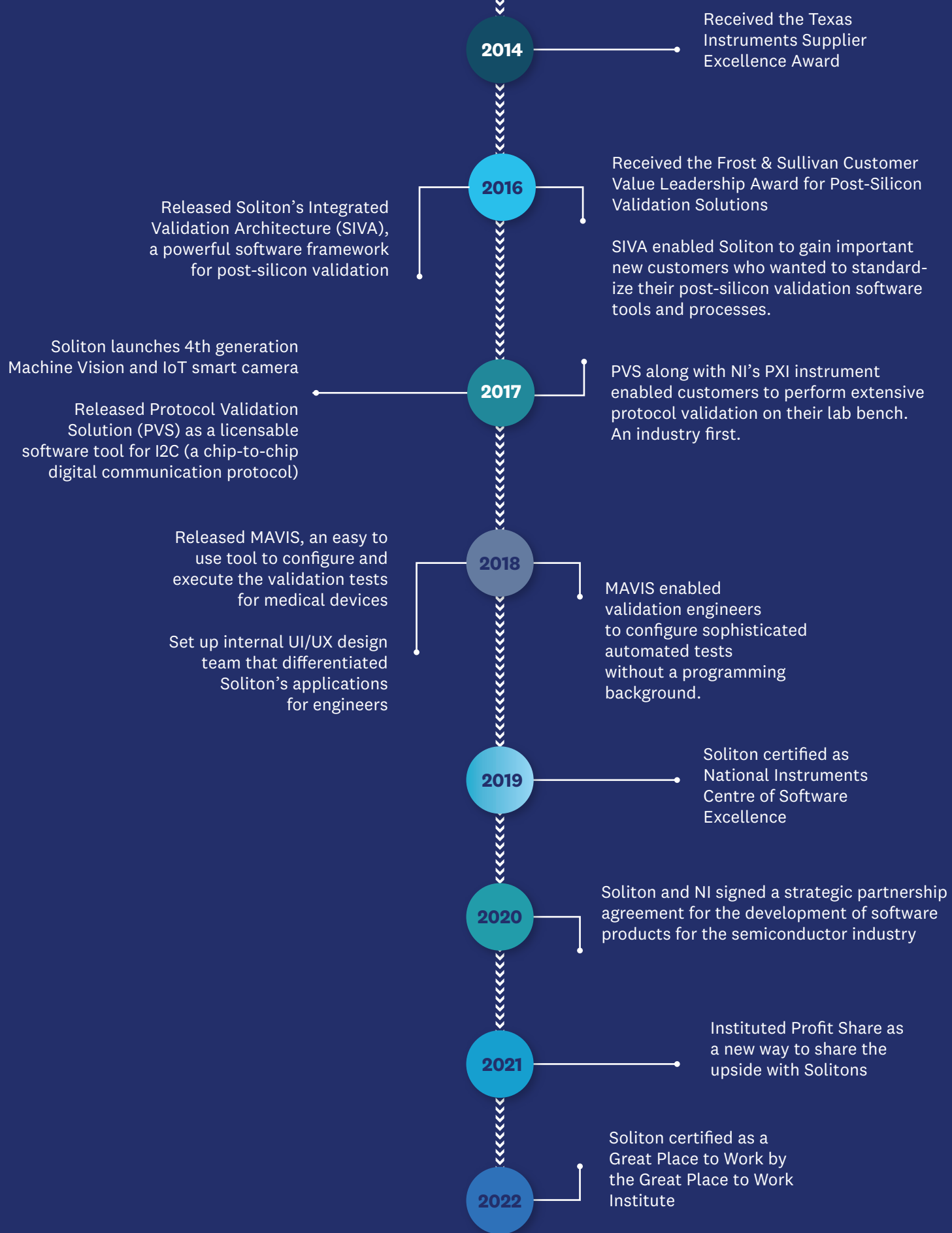
Overall winner of NI's 'Best Application of the Year' contest, for a record third time

Developed an automated optical inspection system for X-ray scintillators; eliminating the tedious work that required experienced manual inspectors

2004

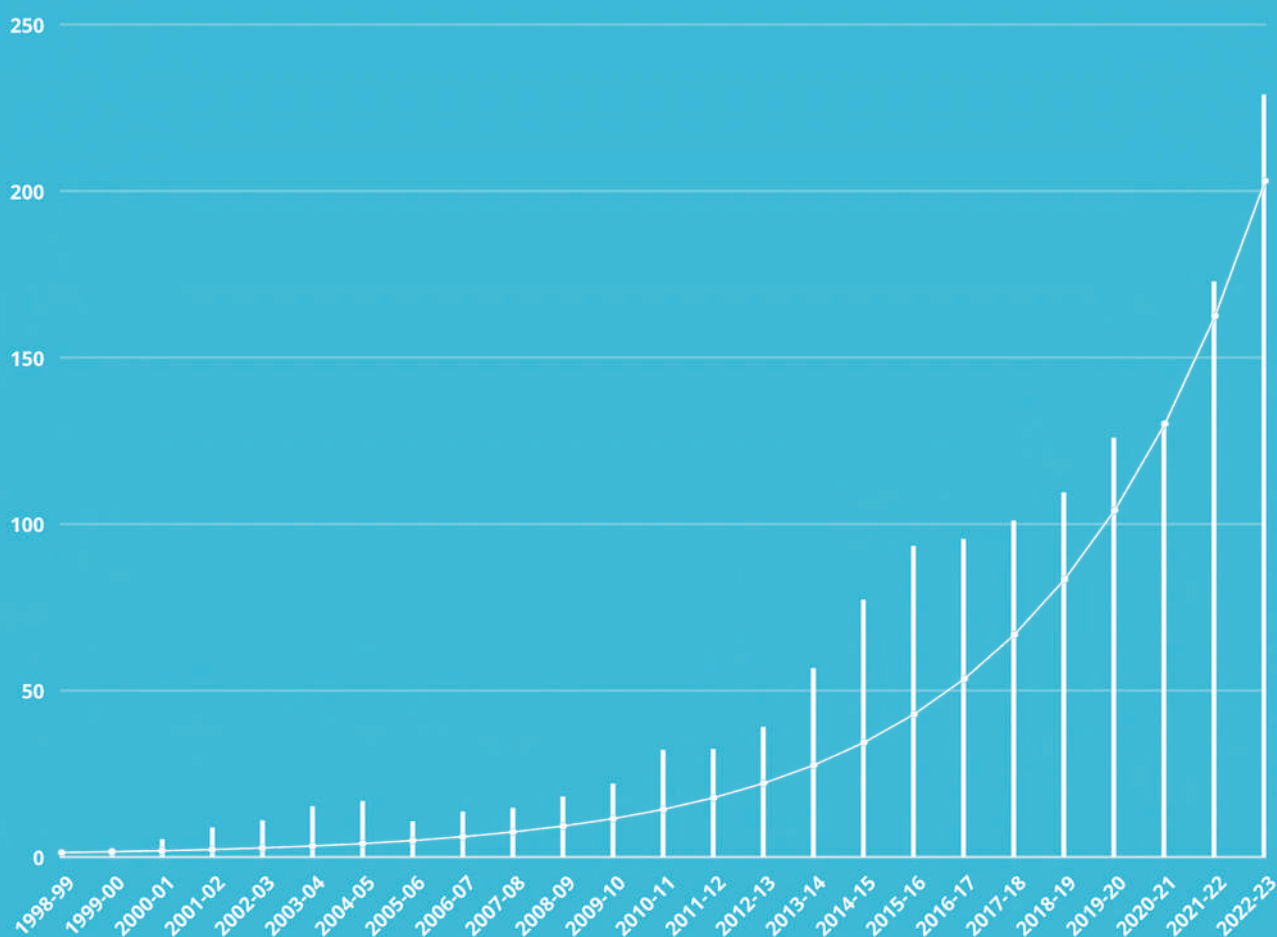
Soliton engineers became the first in India to achieve 'Certified LabVIEW Developer' status from NI





# SOLITON'S REVENUE GROWTH

Annual compounded growth  
of 25% over 25 years



\*Revenue is expressed  
as a multiple of the revenue  
from the first full year  
of operations.

**Bar Graph:** Actual Revenue  
(in units of first year revenue)  
**Curve:** Trend Line with 25%  
annual compounding

# 04

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## THE LONG GAME







FOREWORD BY

**Arjun  
Sathiyaseelan**

Director, Engineering  
(Incoming CEO)

As an organisation, we believe that our primary purpose is to help maximise human potential, both within Soliton as well as outside it. We take a lot of pride and happiness in seeing our engineers make an impact in the world, and are firm believers in the notion that engineers who work to their hearts' content can move humanity forward in powerful ways. This is a journey that has no single destination, but one that has many milestones to be proud of!

Within Soliton, we take great

measures to create a culture that fosters creative problem solving and innovation. We provide our engineers with exposure to sports, performance arts, even farming, in addition to the freedom to explore and learn any technology of their interest. Most importantly, they are able to watch and see first-hand how operating at the highest level of ethics enables business growth in the long term. They learn, as we have, how to pursue personal growth by aiding in the growth of others.

To maximise human potential outside of Soliton, we partner with social changemakers and entrepreneurs to create positive social impact in the domains of education and health, among others. This also provides another channel for Solitons to share their skills for the benefit of the community.

Arjun  
Sathiyaseelan

When I look back at what we have been able to achieve, our success is reflected most clearly in the success of the various talented and passionate individuals that we have worked with, who then continue to work towards the betterment of industry and society. And it would not be an exaggeration to say that this has actually been the key to our own long term business success.



## A LOVE FOR ENGINEERING

*Srividhya and Ezhil in the new Soliton space that was covered by The Hindu for its energy saving design*

At the heart of Soliton's successes, has been its ability to create a work environment and culture that encourages an attitude of problem-solving, bold experimentation, open collaboration, and voluntary sharing of knowledge. The pursuit of engineering excellence and innovation are enshrined in its core values, and act as intrinsic rewards that provide a continual sense of motivation and fulfilment for the team. The engineering culture at Soliton goes well beyond client projects to various initiatives like hackathons, tech meet-ups, and internal company projects.

“

*“When a new office space was identified for our growing Soliton team, Srividhya and I were in charge of setting it up. In our design, we factored in the direction of wind & sunlight, the general workflow of teams, and many other small details that we felt were important. We were pleasantly surprised when later on the building maintenance told us how our electricity bill (per sq.ft.) was half of all the other offices in the building! Our energy-saving office even got covered by The Hindu [newspaper].”*

EZHIL SELVI K, SOLITON



Soliton's commitment to knowledge sharing extends to the wider professional community, regularly running training programs for its clients and partners, and documenting and sharing their learnings in white papers and technical articles. In recent times, Soliton has also supported its key clients by creating and managing company-wide technical forums where best practices are shared and individual contributions are highlighted and rewarded.

“

*“Soliton did a great job of understanding the application and capturing it well; and then took the time to communicate it to the wider community through a paper which most integrators did not do. These papers have a lot of value in building trust with customers, increasing market value for all players, and building credibility for the domain as a whole.”*

JAYARAM PILLAI,  
FORMER MANAGING DIRECTOR,  
NATIONAL INSTRUMENTS,  
IndRA (INDIA, RUSSIA, ARABIA)





## NURTURING THE NEXT GENERATION OF ENGINEERS

The value that Soliton places on engineering excellence also acts as a powerful motivator for young students of engineering, instilling within them optimism and pride in their ability to use their professional skills towards making a real impact in the world. Soliton has always prioritised building strong relationships with the colleges that they recruit from, and have had a direct influence on how colleges train for industry-readiness. There are even Solitons who have been invited to be members on the curriculum boards of their alma maters.

“

*“When they are on campus, Soliton always addresses all the students as engineers - this makes a huge impression on them! They aspire to work in a company like Soliton with like-minded people who appreciate these skills.”*

JOSHUA J ROY, Ph.D.  
TRAINING AND PLACEMENT OFFICER,  
SREC



Soliton is acutely aware of the role that education and mentorship can play in providing a level playing ground for individuals from under-privileged backgrounds. Apart from donating to education NGOs at a corporate level, a number of Solitons actively volunteer to give extra coaching to government school children on STEM subjects like Math, Science, English and Computer Science. Another group of volunteers coach engineering students from government engineering colleges to bring them up to the same level as students attending private colleges.

“

*“It is rare to find volunteers from the corporate sector who actively participate in ongoing programmes, as opposed to one-off events. These programs can actually create sustainable change by helping engineering students from difficult backgrounds access a level of exposure that they wouldn’t have access to otherwise.”*

AJIT SIVARAM,  
CO-FOUNDER,  
U&I AND CHANGEPLUS



Solitons at an NGO demonstrating simple science experiments and concepts with government school children





## ENABLING ENTREPRENEURS & CHANGEMAKERS

Soliton has always believed in the power of passionate and inspired individuals to create value and sustainable change, and has continually worked to identify and support these changemakers in their initiatives. Over the years, Soliton has been instrumental in the success of numerous such individuals, and their firms.

### ENTREPRENEURS

*“Soliton helped me build the first prototype of a cashew sorting machine using their smart camera. I used to take the smart camera with me to all the cashew exporters to demonstrate the concept. I can’t believe the amount of trust that Soliton placed in me - knowing that I was bootstrapping in the initial days, Soliton waited for 5 years and collected payment from me only once I said that I had sufficient money to pay for the smart camera. This speaks volumes of how they are as a company. Today my company holds 40 patents in 80 different countries, has captured 30% of the global cashew sorting market, and purchased 665 smart cameras over a period of 8 years from Soliton”* - SASISEKAR, FOUNDER, NANOPIX

*“When Soliton decided to focus on the overseas market for its LabVIEW, I was personally very keen on continuing the India line of business. That was when I started my firm Unilogic Technologies. If I were in any other company I would not have been able to become an entrepreneur. The amount of training, experience and interactions I had at Soliton, helped me take the leap to run my own business.”*

SENTHILKUMAR MURUGESAN,  
FOUNDER OF UNIOLOGIC AND  
SOLITON ALUMNUS



**Ajit (to the left) and Satish together founded U&I Trust that now has 30,000 volunteers across 40 cities.**

## NGO CHANGEMAKERS

*“We develop a deep and personal relationship with the founders of the NGOs we engage with and prefer to be a supporting partner where all donations given are unrestricted funds allowing the NGOs to utilise them in the best way possible of their choosing. We have done away with all traditional systems of reporting and we make ourselves available in any capacity that they can draw from.”*

MEKHALA, SOLITON

“

*“Soliton has really invested themselves in U&I, and supports us in more ways than just funding. They keep in touch with us, understanding the various challenges that we face, and helping us with problem-solving.”*

AJIT SIVARAM,  
CO-FOUNDER,  
U&I AND CHANGEPLUS

*“Just when we were contemplating winding up after COVID we received unimaginable support from Soliton that made us rethink our decision. It helped us build a better guest room for consulting doctors, generators, OT lights and more. Soliton places a lot of trust in us.”*

DR JEYACHANDRAN,  
FOUNDER, SMART MINI

**U&I (Bangalore)** provides 1-on-1 tuition to thousands of underserved children who attend government schools by mobilising and guiding thousands of volunteers from colleges and companies in 40 cities across India.

**SMART Mini** is a clinic with an operation theatre based in the tribal villages of Denkanikottai near Hosur. Before this clinic was established, the nearest medical care was available only at the Hosur government hospital.

## LIST OF KEY NGO PARTNERSHIPS

**Shanti Ashram** is a Gandhian institution whose work touches the lives of around 250,000 people in the villages around Coimbatore. The NGO works with communities and individuals in their efforts to move out of poverty, address inequalities, build creative leaders and ensure sustained development.

**Flatfish Network** is a charitable trust that subsidizes and helps provide sponsorship for the education of children from disadvantaged communities in Hyderabad.





## A VISION FOR A BETTER WORLD

Installing solar street lights in a village in Namakkal.

### A CULTURE OF GIVING

Soliton inculcates a sense of community and responsibility amongst its employees from day one. Solitons pool in monthly contributions from their salaries to support a cause of their choosing. Volunteering and donation drives are organised regularly. Many Solitons have also signed up to be organ donors.

As a company, Soliton matches contributions by its employees to social causes, and also directly supports NGOs working in the domains of education and health. Since 2015, Soliton has been donating around 5-10% of its pre-tax profits for charitable and social causes. Soliton also offers its skills and expertise to support these missions.





## ENGINEERING FOR GOOD

- During the Chennai Floods, a group of Solitons developed technology to aid the rescue work, mapping local resources & relief efforts for improved access
- Soliton's in-house 'Environment Team' spearheads initiatives that have environmental and community impact - including lake cleaning drives and tree planting in cities.
- A recent initiative by Solitons works towards electrifying villages in two districts in Tamil Nadu using solar lights - giving back to the very communities that many Solitons come from.
- Soliton has its own farmland where a group of interested Solitons tend to the farms during the weekends. Apart from a shared passion for farming, it is meant to understand better, the harsh realities of farming and spark the engineering mind to address these problems, in a way that can be transformational for the industry as a whole.

IMAGE 1 : Solitons planting tapioca saplings

IMAGE 2 : The tapioca saplings having grown 5 feet high

IMAGE 3 : Tapioca harvest in 6-7 months



# THE ROAD AHEAD

**Arjun Sathiyaseelan**  
Incoming CEO

**Ganesh Devaraj**  
Founder

**Over the last 25 years, Soliton has received many awards and accolades. As the leaders of the company, how do you look back at this eventful period, is there any achievement that you are especially proud of ...**

**Ganesh Devaraj [GD]:** Yes, there have been many noteworthy accomplishments, and goodwill and recognition from our peers in the industry. But if you were to ask me what I am most proud of - it is the fact that we remained true to the vision of the type of business that we wanted to build. We had a deep conviction that if we remained true to our core values, our business would prosper. Now, looking back, I feel that we have shown exactly that.



**Arjun Sathiyaseelan [AS]:** I would add that our values-driven approach to business was in no way a liability, but rather central to our strategy. Keeping all stakeholders in mind, caring for people, prioritising relationships ... we did these things with no expectation of near term returns, and observed that they did give returns over the long term through the goodwill and reputation that we gained.

**GD:** Success has come to us repeatedly exactly because we have stayed true to our core values.

### **What do you think is in store for Soliton in the future?**

**AS:** The core or essence of Soliton will only get stronger with time, in fact it will expand. For example, till now we have been trying to create an enabling environment for people to take initiative and thrive, and as a result we have had some amazing leaders emerge. In the future, we plan to cater more specifically to maximising the growth of every individual Soliton.

One aspect of this is also about being more ambitious as a company. The past 25 years has given us a good foundation, now we are ready to build faster. We feel that setting larger goals for the company as a whole is necessary, because that will in turn provide growth and varied experiences for everyone within the company.

**What can you tell us about Soliton's new vision statement  
- "Engineers working to their hearts' content, moving  
humanity forward."**

**GD:** Nobody can deny that our planet is in crisis today. Each of us needs to take responsibility and do our bit for the betterment of humanity. Engineers especially have a crucial role to play in addressing many of the important problems that society faces. This vision statement is a way of marking our intention to direct our collective energies towards making a positive impact on society.

**AS:** We are committed to this. Earlier, we prioritised the success of our employees and customers, now we plan to go beyond this set of people and become more intentional and conscious about creating a positive impact on society as a whole. In fact this is going to be integrated into our business strategy.

**GD:** Over the last 25 years, we have proven to ourselves that one does not need to choose between being ethical and being successful. Now, we want to go one step further and show that we can do well by doing good. We have a larger responsibility as an able organisation to step forward and make the largest positive impact that we can in this world. Our goal is to make doing good a catalyst for business growth.



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## CUSTOMERS AND EXTERNAL STAKEHOLDERS

*Ajit Sivaram*

*Buck Smith*

*Jayaram Pillai*

*John Campbell*

*John Ramthun*

*Joshua J Roy, PhD*

*Marvin Landrum*

*Sasisekar Krish*

*Satish Manchikanti*

*Vishwaprasad Alva*

*Dr. Jeyachandran*



## **PAST BOARD MEMBERS**

*Ashok Aram*

*Rajesh Devaraj*



## **SOLITON ALUMNI**

*Gitesh George Lazar*

*Guhan Ganesamurthi*

*Kalaivani Sundararajan*

*Karthik Nanjappan*

*Manish Shiralkar*

*Rajkumar Balraj*

*Sasikala Thangam*

*Senthilkumar Murugesan*

*Swaminathan Kumaragurubaran*

*Vidya Achari*



## **SOLITONS**

*Abinaya Kannan*

*Anish Mathew*

*Leena Xavier*

*Liji Kutty Mariadass*

*Navin Subramani*

*Sandeep Achari*

*Saranya Baladhandayutham*

*Senthilnathan A*

*Suriya Prashath Sadaiyappan*

*Uthrakumar Arumuganainar*

*Vijay Krishna Guru*

*Vishnu Prasad N*

