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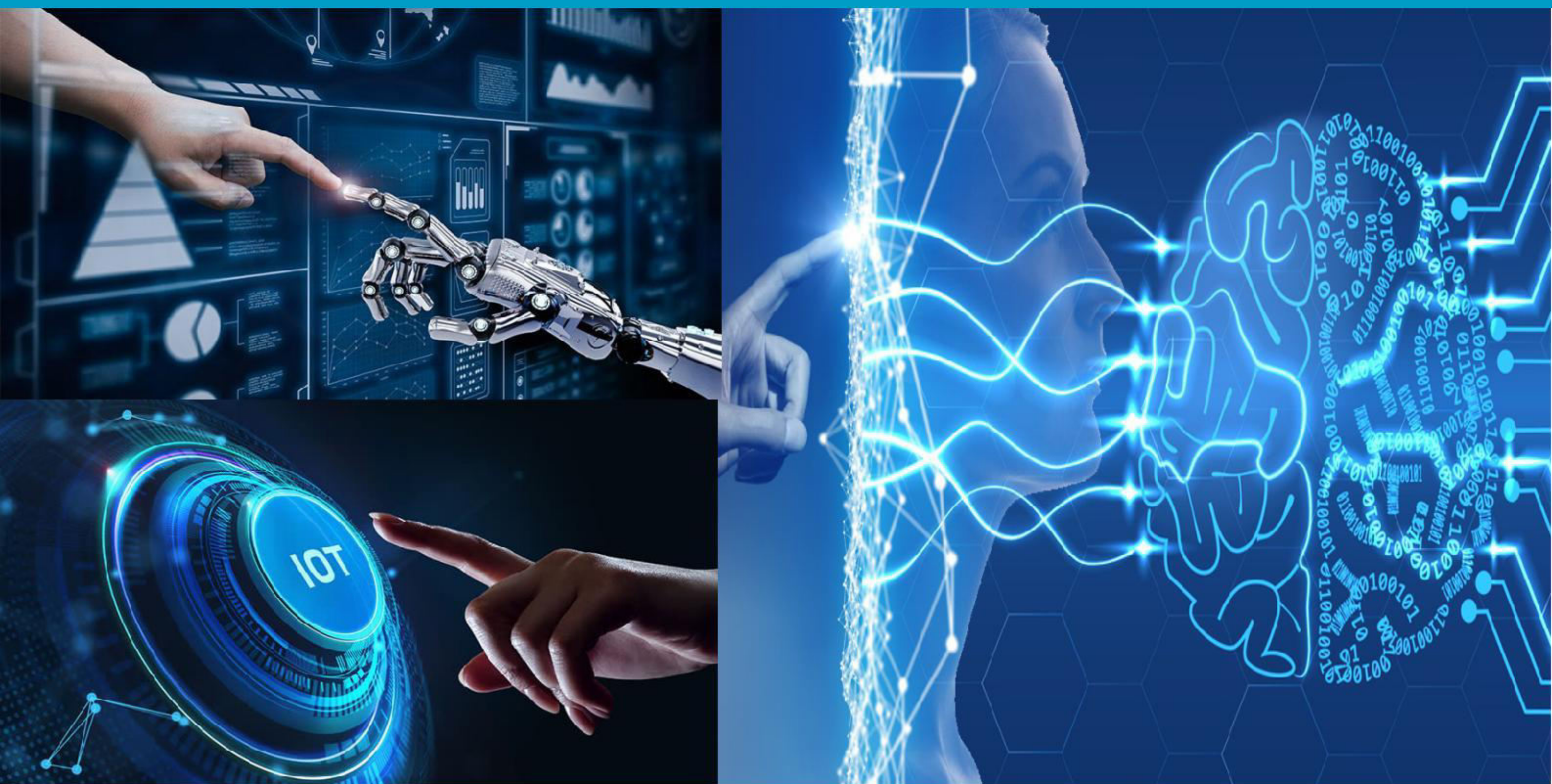

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Comparative Study Over Time Between Cash and Cashless Payment

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ABSTRACT : When it comes to managing your money, how you choose to pay or receive your money is just as important as the amount of money you make. From a barter system that was commodity-based to a cash-based economy and now towards a digital India, we have evolved. We are progressing with time to stay relevant at every step of the way. As the world faces a rapid change in terms of modes of payment, institutions and people are moving towards a cashless economy. For the longest time of our lives, people of the economy have all gotten used to carrying, paying, receiving, and saving hard cash. Old habits die hard.Many people still prefer cash transactions as it is available at hand and possess no threat of security breaches.The downside of using cash, however, is that there's no accurate track of transactions, and an inability to transact from anywhere for anything. Over a billion transactions that happen this way in India are not being tracked or even directed to the economy! Hence, Digital is the way! The period of demonetization and a global pandemic has pushed many businesses and customers to move towards a cashless way of life. The market that depended solely on hard cash until a few years ago has witnessed a spike in paperless financial transactions. Digital payment methods are now increasingly used to conduct day-to-day transactions in the country and are transforming the way customers buy and merchants sell. From big shops in malls to roadside vendors, from schools to banks, many are now using digital methods of payment.

KEYWORDS: Economy, transaction, cashless, hard cash, digital, malls, demonetization, pandemic

I. INTRODUCTION

The Government of India's flagship program "Digital India" aims to turn India into a digitally empowered society that is "Faceless, Paperless, Cashless". Several modes of digital payments are available to promote cashless transactions viz. Banking Cards, USSD, AEPS, Mobile Wallets, Prepaid Cards, Point of Sale, Internet Banking, Mobile Banking, Micro ATMs, and UPI. Digital payment has helped businesses grow and have aided customers to access transactions from their place of comfort.[1]

Earlier people used to visit shops with limited cash and therefore could buy limited goods. But now, digital payment modes have aided to keep aside this worry about cash in hand. The ability to pay or receive digitally has become more important than ever, as it benefits both businesses and consumers in many ways. Digital payments are lightning-fast. It enables money transfer round the clock, is relatively secure, provides convenience, is trackable, and provides several mutually attractive deals that have given tremendous opportunities for new aggregators to come into existence.[2]

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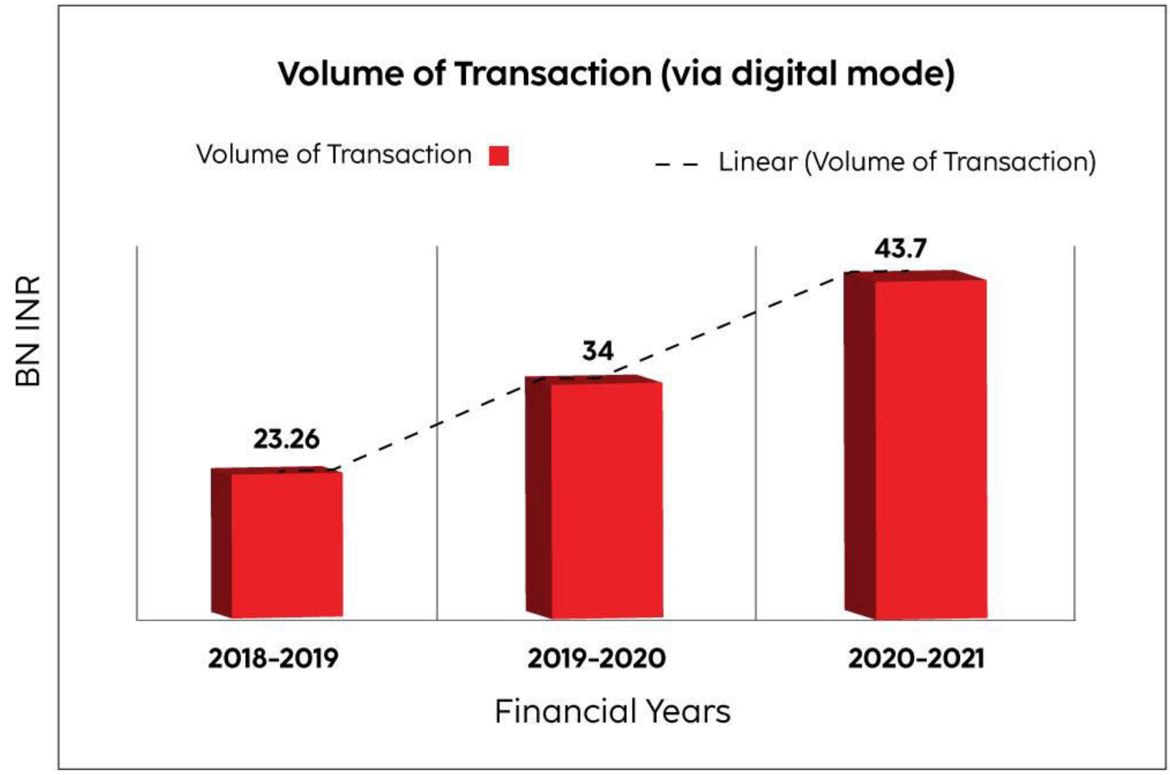

While the country has started moving towards a cashless economy it is inevitable that businesses of all sizes should digitize their business and accept payment through multiple modes, be it cards, mobile wallets, UPI, etc. One of the most important parts of any business is the Point of Sale.[3]

The need of the hour is a seamless, secure and ready-to-go POS using mobile devices such as smartphones or tablets and a mobile point of sale that bundles all commerce and back-end office needs of a business. A Point-of-Sale software is easy to use, the merchant just needs to download the app, choose his plan and complete his KYC to get started.[4]

POS provides different upgraded salient features to the retailers which help them to run a smooth business. The recent innovations and upgraded features helping the retail sectors move and run the business efficiently is the QR payment solution, which is a quick one-step payment solution. The QR code feature allows all the merchants to receive digital payments without the use of a Point-of-Sale (POS) swiping machine.[5]

The customer scans the QR code with any UPI app and enters the amount to be paid. The amount gets instantly credited to the merchant's account – making both the merchant and the customers happy. Payswiff is elated to be a part of this process and in being able to contribute their bit to the economy.[6]

Demonetisation has changed the face of the Indian economy to a large extent by putting digital payment companies in the play but cash remains the king even today.When the government announced demonetisation in 2016, the biggest change that it expected to see was Indian consumers shifting from cash to cashless mode of payments. And it happened too. Yet, there remains a large number of people for whom cash is still the king.A survey by the Reserve Bank of India (RBI) suggests that despite the increase in use of digital payments in India, a large group of people still prefer cash over digital payments.[7] The central bank interviewed 6192 people from different cities to understand retail payments habits in India. About 54 per cent of the total said they preferred making cash payments. There are multiple reasons why a number of people continue to prefer and demand cash. And not all of them are reasons of practicality or usage. Instead, the reasons are more personal, such as the immediacy and feel of money, or the difficulties of accepting and enabling digital payments. Despite numerous ads running on the web or your TV sets explaining how to use e-wallets or digital payments, there are many people that find the process confusing or tough.[8]

Sharbani Das, 51, owns a small shop of flowers and other Pooja items. Her shop is situated at the corner of one of the busiest streets of Kolkata and right next to a popular temple. Most of the people coming to worship prefer buying flowers from her shop."My shop sees customers all day. I have been running this shop for the last 15 years so I definitely have seen the change in people's paying habits. Youngsters come to my shop and ask if I have a Paytm number or QR code for payment. I am an educated woman but still I don't understand how this thing works. Frankly,

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speaking I don't even have the time to sit and learn digital payment. Good for those who are using it, I am happy doing it the classic way," she says. Sharbani has two children. Her eldest child Mini, who is 27, says her mother is an independent woman and has always been like that. "I have tried teaching her few a times how to use Paytm but she says it's all very confusing for her and she'd prefer using that time for household chores than to sit and learn."[9]

For people like Vini, 33, cash is only the real thing and digital mode of payments fail to give the joy of receiving money for your hard work. Vini runs a small bakery at her home and takes orders for all kinds of party celebrations that involve cakes."I know that GPay or Paytm are the call of modern times. I am a homemaker who has recently found her passion for baking. I work really hard for even the smallest of my orders and the cash that comes in my hand after the delivery is like the reward for my effort. You touch the money and you are reminded of all the time and effort that you've put into delivering your product," she says. "Sometimes I also miss orders for this reason but that's okay. I may use it in future but for now I want to enjoy hard cash and appreciate my baking journey."[10]

Where on one hand the government is advocating Indians to go cashless, there are a few government-owned shops that do not approve of e-payments. M. Shankar, 53, who runs a handloom shop owned by the state government, says that the government has yet not approved of digital payment."I understand the convenience that digital payment offers but what can I do when the higher orders have yet not green signal to it. We can wait and watch when it happens," he says as he tucks away a neatly folded silk saree on one of the racks in the shop.While the government may be banking on digital payment to change the face of the Indian economy, people like Shankar don't find the need for it for now.[11]

II. DISCUSSION

Recently, a report titled PRICE noted that smartphone ownership is no longer holding people back from adopting digital payment. The reality however is nuanced because there are many people who don't use digital payment because they don't have a smartphone.Nilabh, 29, goes door to door selling vegetables. When asked why he is not using digital payment yet, he takes out an old-looking feature phone from his pocket and says, "this is why." "My friends are using it so I know how it works. I also know that you need a smartphone for this. I will buy one soon and then start using digital payment. That way I will have a track of all my payments right before me in my phone," he says.Ravi, 34, lives almost 500km away from his native place for earning. He drives an e-rickshaw and picks up passengers for small distances. The maximum distance that he can travel earns him not more than Rs 150."I receive payments like Rs 30, Rs 100 or Rs 50 for a ride.[12] Who would go through all the effort of opening a digital wallet or linking Aadhaar and all for such small payments? Also, you get these payments in your account which is again extra leg work for me. You go to the bank or ATM and then take out your money. It's fine this way only for me," he says.COVID-19 pandemic has changed an important aspect of everyday life, viz. how people make payments. It shows that consumers who had been making cashless payments prior to the outbreak of the pandemic have been even more likely to do so since it broke out. On the other hand, the consumers who had mostly been paying in cash have often continued to do so. The divide between those who pay in cash and those who do not, therefore, seems to have widened during the pandemic.[13] It may suggest financial inclusion issues. Additionally, we found that the probability of more frequent cashless payments as a result of the pandemic differs considerably between countries and therefore indicate the role of country-specific factors.Firstly, consumers who had been making cashless payments prior to the outbreak of the pandemic have often been doing so more frequently since, while those who had preferred to pay in cash have for the most part continued to do so. This may indicate financial inclusion issues—e.g. people without cashless instruments could have difficulties to adapt to the new situation within the bounds of imposed restrictions. It should be noted, however, that although investigators showed that (among other factors) change of shopping behaviour and fear of using cash due to the COVID affected both payment behaviour during the pandemic and intentions of further use of cashless payments after the pandemic, it is not obvious whether those changes will last.[14] This could be an interesting topic for future studies.While digital payments have skyrocketed in the last few years, with the pandemic providing a fillip, the aim to be a cashless society is still a far-fetched dream for India.However, being a less-cash society is something that the country can achieve in the medium term, panellists at the Business Standard BFSI Insight Summit on Digital and Payment Banks concurred."I think all of us are aligned with the idea of less cash than cashless.I just hope CBDC (central bank digital currency) does some magic so that we reach the cashless dream.So, in 3-5 years' time, if we have a cash-to-GDP ratio in single digits, we would be happy as an ecosystem. And, it would be a huge success to India's digital payment journey," said Dilip Asbe, managing director (MD) & chief executive officer (CEO), National Payments Corporation of India (NPCI).Echoing his views, Rishi Gupta, MD & CEO, Fino Payments Bank, said, "When we talk about cashless society, we are not talking about people in Mumbai. We are talking about people who are in the hinterland.Becoming a cashless society is a far-fetched dream for India but less cash is something that is more

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achievable.[15] And, a lot of fintechs and banks have started to focus on the mass segment to make them join the digital bandwagon."There is about $1.6 trillion of personal consumption expenditure that takes place in India. Of that, currently 55–60 per cent is still cash, said Sandeep Ghosh, Group Country Manager, India & South Asia of Visa."So, there is a fair bit of distance to traverse and a significant amount of cash displacement opportunity that continues to be there," he said."We have a long way to go and less cash should be the medium-term mantra. Cash is still growing. But I think the efforts of the government, NPCI, and all the banks are wonderful. We have seen digital grow but cash is still growing.[16] I think we have to continue plugging away at increasing the acceptance of digital," said Parag Rao, Country Head - payments business, consumer finance, digital banking & marketing, HDFC Bank.[17]

Ganesh Ananthanarayanan, chief operating operator (COO), Airtel Payments Bank, said, "In the next five years, both cash and digital transactions will coexist because even today we have possibly over Rs 30 trillion cash in circulation. Five years down the line, we will possibly be the fastest growing because we have done a lot of innovation in the last five years. And, the other innovations which are there in the pipeline will help accelerate digital."Vishwas Patel, Chairman, Payments Council of India[18], said, "There is a pace at which digital payments are growing. These regulations sometimes are beneficial in the long term but in the short term they create havoc. While the government is saying we should have zero MDR on the other side, RBI is saying if you want a licence, you have to have a positive net worth. So yes, regulation is tricky and only the experienced guys will go through that.""Regulations on standing instructions, card control, two-factor authentication, a lot of that is important in a market. But you also need to make sure that these regulations don't end up creating a lot of friction[19]. This is because one of the key aspects of digital is that it's got to be paperless, seamless, frictionless," he added.Commenting on the choices that the consumers have when it comes to modes of payment, Asbe said, "In my assessment, we are not even one-third when it comes to pure digital form of transactions in India.While the penetration may be 50 per cent in value, there is a large volume of transactions that is happening on cash which is predominantly the small-ticket transactions. So, I think India is a high-volume, low-margin game as far as payments are concerned".When it comes to the Budget wish list for the payments sector, Asbe said, "Digital payments incentive is one ask from our side. It is very important for the ecosystem because there has to be some incentive for them to give the service, and no body can run their services for free."[20]

III. RESULTS

Cash is too expensive to manage. Everyone knows it's true! That's why everyone's trying to get rid of it. Cash is so passé, old school. Cashless is the way to go. Cashless payment technologies are cool, and new means of cashless payment come to the forefront all the time. Besides, with cashless payments, the money is deposited into your bank account within 24 or 48 hours without any action taken on the part of the operator. [21]What's not to like about that?One can debate for a long time whether cashless will completely displace cash or not, but let's not debate this topic here. Let's see how the cost of managing cash compares to that of managing cashless.Herein lies the difficulty. While everyone is quick to complain about cash management, few can actually pin point how much it is costing them. Cash management costs arise from having to collect money from the pay stations, count the money in the operator's revenue department, transfer change in the opposite direction, and, quite importantly, the cost of the Cash-In-Transit (CIT) service to transport cash back and forth between the bank and the operator premises.[22] The question here is: how much as a percentage of collected revenue is spent on cash management costs?Truth be told, cash management costs differ between operators depending on the transit segment they are in (i.e. bus vs metro), the fare structure, and how "solid" the cash management process is at the operator. A common figure that is tossed around for the metro segment is that cash management costs the metro operator about 7% of revenue. One would expect that cash management is costing bus segment operators more than that, because they are handling a lot of coin and low-value bill denominations. Let's assume that the bus operator's cash management costs are 50% higher than those of the metro segment. This means that we are pegging the bus operator cash management costs at about 10% of revenue. This is a large amount by any measure, and warrants careful consideration.[23]

But before we throw the towel in on cash, let's consider the cost of managing its cashless counterpart. There are many cashless means of payment. One can make a cashless payment on the internet, using the NFC technology in most smart phones, or using good old plastic. No matter your preferred choice of cashless payment, the cashless transaction falls into one of two categories: credit or debit.[24] Credit and debit cards have different transaction fees. Whenever a transaction is effected with a debit or credit card account, various entities involved in concluding the cashless transaction take a bite out of Operator revenue. The entities that take a cut of each transaction are: the Operator's bank (aka acquirer bank), the credit/debit account issuer (issuer bank), network association brands (e.g. Mastercard, VISA, etc…), and the communications gateway provider (gateway is what securely links the Operator network with the

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outside internet). Operators also incur other costs in relation to enabling cashless payment, such as significant PCI compliance costs, but these are fixed and not per transaction.[25]

By and large, credit transaction costs are quite different than debit transaction costs, and each warrants detailed clarification. But are we talking about low-value single-ride (or short-term) tickets here or are we talking about loading up a smart card with a relatively larger sum of money? Given that many riders fall in an income segment that does not have the funds to commit larger sums of money into a smart card, we will address credit and debit transactions costs for single-ride tickets in this article.The largest credit transaction cost is what is known as the Interchange Fee[26]. The Interchange Fee is comprised of a flat rate (i.e. fixed cost per transaction) and a variable rate (i.e. a % of the transaction value). Credit Card Associations publish a long list of industries and sectors, each with its own Interchange Fee rate.The Interchange fee variable rate depends on many factors, such as the credit card association brand, the security of the transaction (qualified, mid-qualified or non-qualified, depending on whether the card is present or not, whether the user is entering a pin number or not, etc…), and the type of card used (reward cards have a higher Interchange Fee than non-reward ones).[27] In general, single-ride ticket transaction values fall in the realm of what credit card associations call small ticket items and are therefore assigned lower Interchange Fees (4 cents for the flat rate, and 1.55% to 2.20% + depending on the type and brand of card).Another important cost is the NABU or Acquirer's Processing Fee. Network Association and Brand Usage (NABU) is the name that MasterCard uses, and Acquirer's Processing Fee is the name that VISA uses for essentially the same charge (different from the Acquirer Bank's fee). This fee is a flat fee that is a little less than 2 cents per transaction. Between this flat fee and the flat fee related to Interchange, you're already at ~6 cents cost per transaction.Other credit transaction costs involve an Assessment Fee (0.11%) by the card association brand, authorization and settlement fees, and other cashless fees (the Operator's Acquirer Bank fees, and the gateway provider fees). These "other" fees could add another few cents to the flat rate and over 11 basis points (i.e. > 0.11%) to the variable rate.[28]

In total, a flat rate per small ticket credit card transaction could quickly run higher than 10 cents per transaction. The variable component of the credit card transaction could quickly climb above 2% depending on the card.So where does that put the total cost of a credit transaction as a % of the transaction value? The answer is that it depends on the transaction amount. For a single-ride bus ticket that costs $1-$1.5, the cost for a credit transaction could be anywhere between 9%- 13% (if not higher)!Are you now agitated at the high cost of a credit transaction? Relieved there is a debit option out there? Certainly, debit transactions cost less than credit transaction, right? Wrong! While this was true in the not too distant past, the Durbin Amendment came and changed everything.The Durbin Amendment introduced a single-tiered debit transaction cost structure. No matter the value of the transaction, the Interchange fee for a debit transaction is now 0.05% + 21 cents. Yes, you read it right: 21 cents is the flat rate component of the regulated debit transaction Interchange fee. Where would that, then, put the cost of a debit transaction for a single-ride ticket whose value is $1-$1.5? We'll let you do the math on this one, but suffice it to say it will make a credit transaction cost look cheap in comparison…[29]

Is Cash Really More Expensive to Manage Than Cashless?And that's the million dollar question. We presented the facts with cold, hard numbers above, and leave it up to readers to reach their conclusion. But a word of caution from the authors here to operators out there: next time you want to enthusiastically say that cash is more expensive to manage than cashless, think again. Next time you get excited about enabling tap-to-pay with NFC phones, be careful what you wish for. A cash payment may well be better for your bottom line.[30]

IV. CONCLUSIONS

Crane Payment Innovations (CPI) is part of Crane Co., a diversified manufacturer of highly engineered industrial products (NYSE:CR). CPI provides a full range of unattended payment solutions for Gaming, Retail, Transportation, Vending, and Financial Services applications. CPI is built upon the technological heritage and market expertise of the NRI, CashCode, Telequip, Money Controls and, most recently, MEI and Conlux brands.CPI works in partnership with valued customers to enhance its portfolio of high-quality payment solutions – from coin and bill processing to cashless systems and asset management software.CPI is headquartered in Malvern, PA with additional offices, manufacturing facilities, distribution and service centers worldwide. The company holds one of the world's largest installed bases of unattended payment systems. Crane Payment Innovations (CPI) is built upon the technical heritage and market expertise of our famous brands CashCode, Conlux, Crane, Cummins Allison, MEI, Microtronic, Money Controls, NRI and Telequip.We are one of the world's largest installed bases of payment systems.[29] Our range of products and

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technologies, not to mention our unmatched customer service and support, combine to bring you benefits that will make a real difference to your business. With the world's most reliable portfolio of note, coin, and cashless payment devices, we make payment simple and easy even in the harshest environments to meet the needs of every customer.Now, CPI offers cashless payment solutions that seamlessly integrates into any unattended payment environment, including parking and EV charging.Cash and cashless management solutions in the parking and EV charging industry must be reliable and easy to use, but beyond that, the requirements will always depend on the locality and the specific application. Only a supplier with the widest range of technologies and expertise can hope to offer a solution fit for every scenario and in every corner of the globe. As the world's leading provider of money-handling technology, CPI offers the most comprehensive portfolio of cash and cashless management solutions in the parking and EV charging industry. From note acceptors and coin validators to cashless card readers, customers can be confident that our solutions are robust and efficient, and that they will deliver secure travel payment solutions.[30]

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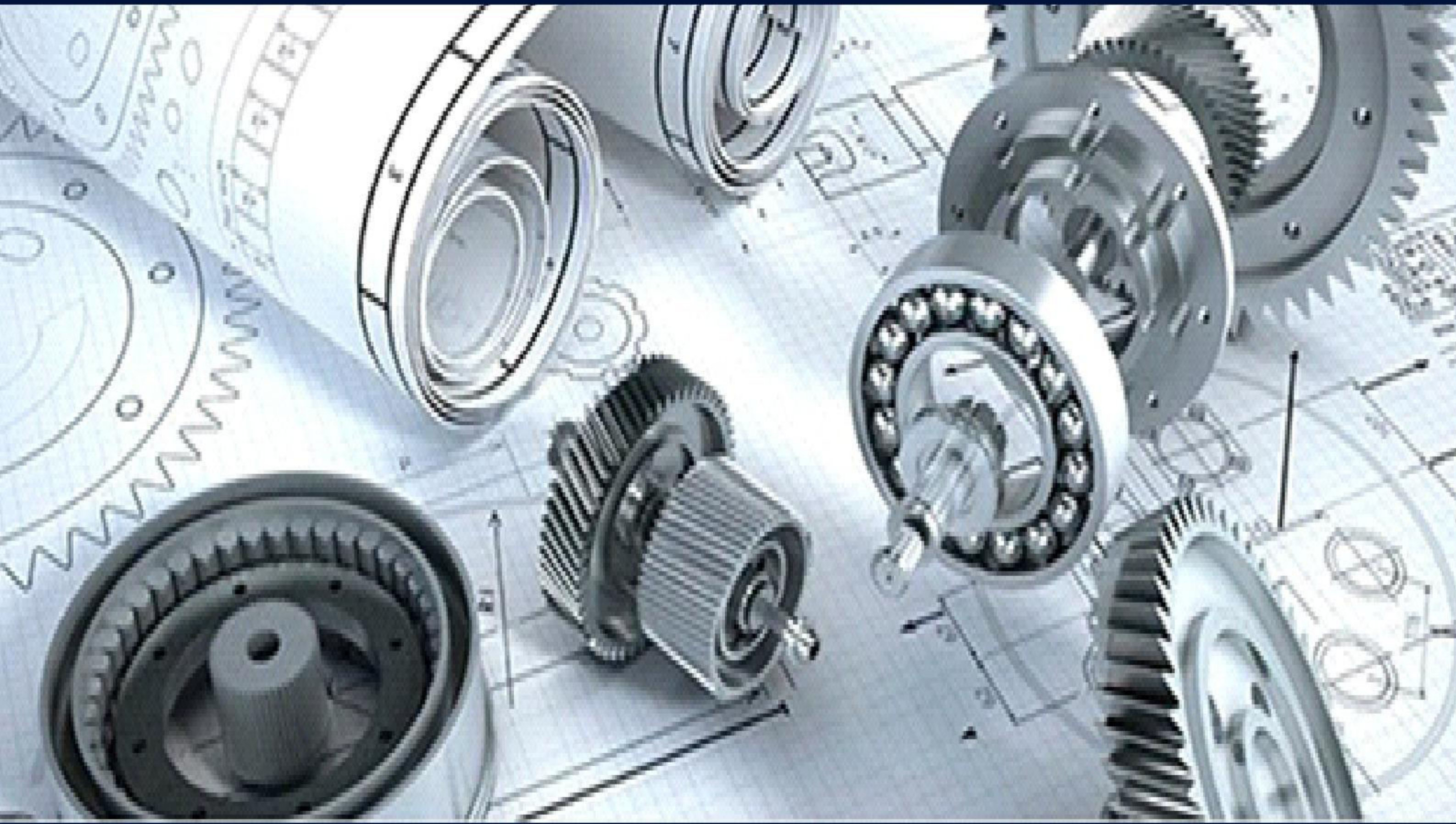

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