

360° Perfektion

 **SYNERGIES** CASTINGS LIMITED

A window into our World !!

Greetings! We hope you enjoyed reading our previous newsletter... we are delighted to inform you that we bagged the Toyota 'Supplier of the Year' Runner-up award. A lot has been happening here and you will read all about it in these following pages.

Change has become the norm, especially in the very competitive automotive markets. 'Small is beautiful' but when it comes to wheels 'Big is Better'. The article describes the concept and advantages of 'Plus sizing'. This quarter TEK TALK highlights Automatic Radiography and its use in automatic defect recognition and how we integrated it into our process.

Having bagged the Toyota 'Supplier of the Year' Runner-up and other awards, once again SYNERGIES has proved its credentials... as the saying goes, we go the extra mile to delight our customers and support them in all their endeavours. Don't miss the SYNERGIES Edge.

This time Vizag Beat highlights the infrastructure of Vizag.

As always we invite your comments, criticisms and suggestions to improve this newsletter better.

Thank you

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The 'X' road ahead ...

Has the global economy turned the corner? It seems so, or so our leaders would like us to believe. While there are innumerable experts with varying opinions, at the grass roots, global developments seem hopeful yet disconcerting and slightly unsettling. The Indian economy clearly seems to be over the hump, and the auto sales numbers are reflecting that. The US markets / auto sales numbers have also recovered smartly and raise hopes for a 12 mil+ annual sales year. A boon and relief for the erstwhile Big 3.

Yet, the undercurrent remains turbulent and discomfoting. The unemployment rates are still at uncomfortable levels in the US and other developed economies; federal deficits are rising and we are yet unsure of other 'looming' credit crises in the US (commercial real estate, credit cards, etc.), and Europe (governmental failures). Which compels us to question the thesis for a secular recovery.

Amidst this conflicting backdrop, smaller companies' like ours need to take a call on expansion versus abundant restraint. At SYNERGIES, a cautious, careful, tight pursed, multi-phase modular expansion is our answer to the above dilemma. Accordingly, we are undertaking a small 40% expansion by September this year, and then, we will reconsider a further modular expansion. This will allow us to fulfill our customer expectations without straining our cash flow.

Within our industry, yet another interesting development is the fast changing economics of China and its implications for wheel manufacturing companies like ours. Riding on the back of various governmental subsidies and incentives, the Chinese wheel makers have pretty much taken over the global alloy wheel industry. Now, they are at an interesting cross road; on one side, they are faced with rising costs, inflation, government restrictions, more stringent pollution norms, the revaluation of the RMB; and on the other side, they are faced with anti dumping duties likely to be imposed on Chinese wheel imports by the European Union. This scenario presents new challenges and opportunities for both the Chinese players, as well as other global wheel manufacturing companies.

How we deal with this new dynamic will determine the success of the Indian alloy wheel industry in the future. Like many other countries / continents in the developed / developing economies, we could ignore it and completely lose the industry (12 of the top 20 wheel companies in the developed economy have gone out of business in the last few years); or find creative, innovative and fair ways of 'equitably' competing / co-existing with them.

"Optimists enrich the present, enhance the future, challenge the improbable and attain the impossible." - William Arthur Ward
The story of SYNERGIES is akin to the story of the 'train that never gave up', and so, we persist, relentlessly, optimistically!!

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Fashion Street ...



A BOLD NEW DRIVE

Designed in the birth-place of style itself, this muscular athlete is hand-crafted. Sleek yet aggressive, agile yet restrained. It's waiting to be unleashed by those who like to make their own style statements; our sporty 15" alloy wheels add to the Emotion Pack.



SMART AND SMARTER

The youthful SMART Figo is designed so you're always in control... great engine and drive dynamics. The cool Figo is loaded with 9-spoke 14" lightweight alloy wheels to provide maximum driving comfort & enhance vehicle style.



The ultimate in power, luxury and style, a full size no excuses SUV that sports six tri-spoke 22" chrome wheels featuring a brilliant and durable chrome finish.

Plus Sizing



Plus Size 22 " Alloy



Plus Size 20" Alloy



Standard 18 " Alloy



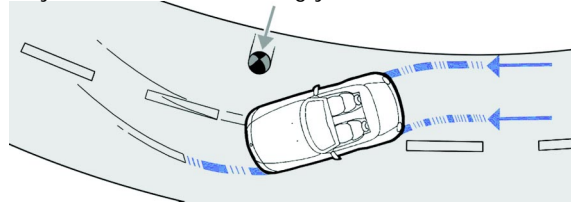
Steel Wheel

Small is beautiful, big is better!

Many people want to accessorize their cars - and one of the easiest ways to get a customized look is to get some new wheels. Standard steel wheels are fast being replaced by alloy wheels to give you the look you want. And for many, that look includes bigger wheels. It used to be that cars came from the factory with 15 or 16 inch wheels. Now 16, 17 and even 18 inchers are standard. And the factories are offering optional wheel packages up to 20 inches or more.

Alloy wheels offer numerous advantages both technical as well as aesthetics. One of the major benefits that alloy wheels offer over standard steel wheels are that they have **a greater strength-to-weight ratio**; they have a superior 'damping' effect and can dissipate heat better, enabling better braking. Alloys that are the same weight as standard wheels are stronger, and those that are the same strength are lighter. This makes handling better than standard wheels as they reduce what is called 'unsprung mass', essentially easing the load on the car's suspension. This also allows the car to have a better grip so the tire can follow the terrain better. Alloy wheels are more precisely engineered and manufactured, making them more 360° perfect - perfect concentricity enables better handling, less wobbling and less imbalance. The lighter weight also aids in reducing fuel consumption, making cars more efficient than their steel wheel counterparts.

So what do you consider when you want to upsize your wheels. It's not exactly a do it yourself project, so you need to know a thing or two before you get started. Plus-Sizing or Up-Stepping are two terms given to the practice of increasing the diameter of wheels whilst simultaneously reducing the profile of the tyres to keep the overall 'rolling diameter' the same. Each step-up will proportionately reduce the flexible tyre 'sidewall'. Plus sizing your wheels and tires is the best way to improve both - performance and appearance



of your vehicle. By using a larger diameter wheel with a lower profile tire it is possible to maintain the overall diameter of the tire, keeping the odometer and speedometer changes negligible. The visual appeal is obvious; wheels look better than the sidewall of a tire, so more the wheel and less the sidewall the better the look.

The tire holds less air, so the sidewalls are made stiffer to compensate. Low profile tires use special compounds that give the sidewall the strength it needs without compromising ride quality. As you increase your wheel size, you'll typically get a slightly wider tire. This means that you have a larger contact patch. The contact patch is part of the tire that contacts the road. Because there's more rubber on the road, the vehicle will handle better. And braking distances will be shorter. A lot of people with trucks or SUV's love the extra control. But it is important to ensure that the rolling diameter remains the same.

Alloy wheels are a great alternative to standard steel ones. While they cost slightly more, they will pay for themselves because of all the advantages / benefits they provide. Your vehicle represents a

huge investment of both money and the time you spend driving it. It is smart to opt for alloy wheels from the very day you buy it.

Standard Fit



14" Wheel

Plus One



15" Wheel

Plus Two



16" Wheel



SYNERGIES Bags TOYOTA's Prestigious Supplier Award



A challenging year culminated in SYNERGIES bagging Toyota's most prestigious 'Supplier of the Year 2009 - 2010 Runners-up' award along with special 'Zero PPM' and '100% Delivery' awards. Winning this award from amidst of more than 100 world class suppliers and 40 MNC's is truly a matter of pride for us.



Toyota is known for its exacting quality standards, and we are delighted to receive the 'Supplier of the Year Runners-up' award as it is a testament to the SYNERGIES commitment to Excellence. Our Companywide Teamwork, innovation, technique, craftsmanship, meticulous planning and execution enabled us to achieve perfect scores. The '100% Delivery' award and the 'Zero PPM' award in a product category that is both structurally and aesthetically extremely demanding, have re-affirmed SYNERGIES as the leader in Alloy Wheel manufacturing in the country. This milestone re-affirms our commitment to our customers.

Pledge your signature, pledge an act!

A signature campaign was carried out to bring about change - to help our members become responsible citizens by conserving natural resources and making small changes in their daily behavior, thereby taking care of the environment and their health.



Visitor's Gallery



S & V Technologies Inc.



TUV India



Superior Industries



Bhagawathula Charitable Trust

ADVANTAGE SYNERGIES

Being recognized as the Best Supplier of the Year 2009 - 2010 Runners-up by none other than Toyota is special because winning this award is an acknowledgement of our 'growth' as a supplier, and the enduring value we bring to all of our customers. This recognition is a culmination of the many years of effort put in by the entire Team SYNERGIES, and today, we share this pride with our major customers.

Our policy has always been to adopt the best practices from our competitors, customers, suppliers and customize, adopt and incorporate them into our manufacturing process to meet stringent performance targets. As we celebrate 10 years of SYNERGIES, we look at all that we put into practice from the lessons we learnt and implemented; to meet our customers' changing needs... the *raison d'être* of our existence. While delighted with the win, we are sure that it is only due to our customers that we have become the leading alloy wheel manufacturers in the country.

The SYNERGIES 'Edge'

- No compromise in inputs: Being an exclusive OEM supplier there is no scope for compromising on process and quality, a common feature with manufacturers who cater to both OEM's as well as the aftermarket. We use only the best in technology, equipment, material and manpower.
- All under one roof: Alloy wheels in sizes ranging from 12" to 24", and finishes - painted, machined, polished, chrome plated with matching trim.
- Only alloy wheel manufacturer supplying 17" wheels to OEM's in India; and amongst a handful of alloy wheel manufacturers in the world capable of manufacturing 24" alloy wheels with chrome plated finish to OEM standards.
- All quality and environmental certifications in place: SYNERGIES is JWL from VIA, Japan, TS 16949 and ISO 14001 from TUV Nord certified and the wheels undergo all possible quality tests at various stages before / during / after the process. As far as quality is concerned our policy is "Every operator in our process is a quality inspector". Our immaculate PPM ratings with our demanding customers are proof of this commitment.
- State-of-the-art in-house Testing Facility: This facility is certified by VIA, Japan and also the coveted TIP accreditation from General Motors Corporation. A reason why we have a 100% success record with all external testing and part homologation.
- Our USP: We deliver the benefits of global sourcing and local service to our customers. A low cost global infrastructure is in place to ensure competitive pricing and next door service. We continue to abide by our mantra of being progressive, customer focused, flexible, and adaptable to customer needs.
- Engineering: High-end design, engineering and analysis capability is the key word. Our Engineering team is fully equipped and committed to provide best in class support to offer tailor made solutions to the unique problems of our customers
- Delivery: Whether in Europe, USA or India, our record of on-time delivery is something we are fiercely proud of. The fact that we enjoy a 100% delivery record with each of our customers for the past 5 years in eloquent testimony to this fact.
- Other factors: Global sourcing - competitive pricing, Consistency, Reliability, Traceability as per ISO / QS / TS requirements, Substantial Investment in R&D, ISO / QS and ERP, Expansion, Value-added services and amongst the few wheel manufacturers with facilities for wheel engineering, casting, finishing and accessories all under one roof.
- Casting Edge: Amongst the few offering cutting edge technology, most contemporary Helium Leak testing of the casting, Automatic Defect Recognition, Low Point Marking, automatic wheel balancing, fully automated tri nickel-copper-chrome plating and many more.

... adding 'value' to our customers every day!

New Customer

Name : ICML
 Model : Rhino
 Wheel : 15"
 Design : 5 Spokes
 Finish : Painted
 Volume : 20 k / year
 Starting : August 2010



Did You Know. . .

FIAT Logo

The FIAT name is an acronym for Fabbrica Italiana Automobili Torino (Italian Car Factory of Turin), founded by a group of investors—Giovanni Agnelli among them—in 1899. The current Fiat logo has the letters F-I-A-T written with a silver line between each of them. The lines were added by the company's design chief when one day passing under the factory, he noticed the sky at the backdrop of the huge FIAT letters on the top of the building. The lines added are actually the spaces that he saw in the name over the building and decided to keep it.



FIAT was founded in Turin on July 12, 1899. The first plant, inaugurated in 1900 at Corso Dante, had 235 employees and produced 24 automobiles. The first automobile to bear the Fiat brand name was a model 4 HP.

Mercedes cars are named after an Austrian girl

In 1897, Austrian businessman Emil Jellinek, traveled from his home in Nice, France to purchase a car from the Daimler factory in Cannstatt, Germany. On his return to the French Riviera,



Mercedes-Benz

his sporting Daimler Phoenix caused such a sensation that he decided to enter it into a local touring competition, under the name of "Mercedes" after his favorite 9 year old daughter. Realizing the business potential for the new car, he not only placed an order for 36 more, but also secured the franchise for selling them in several countries. **Gottlieb Daimler** also agreed to having them sold under the name of "Mercedes."

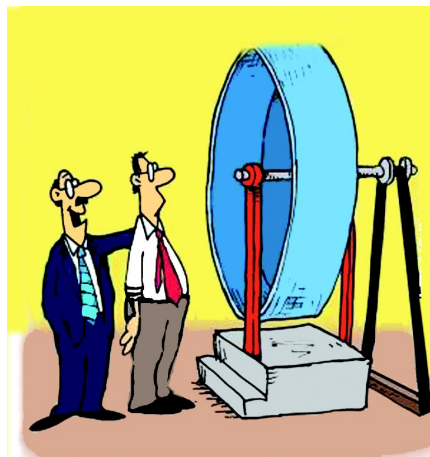
The Mercedes trade name was registered after Daimler's death in 1900 and the 3-pointed star became the trade mark. Daimler had once drawn the emblem on a postcard to his wife, the star symbolizing the growth of the business into transport on land, sea and air.

For Karl Benz, a name for his automobile was simple: he enclosed his name in a cogwheel to exemplify the solidness of his engineering works at Mannheim. The cogwheel later became a laurel wreath.

After the First World War the Daimler and Benz companies worked closer together, generally advertising on the same posters. They amalgamated in 1926, combining the laurel wreath and 3-pointed star as their trade mark.

Interestingly, although Gottlieb Daimler and Karl Benz were two of the major pioneers in the automotive industry, they probably never met, even though they lived only 100km (60 miles) from each other in Germany. Daimler passed away in 1900. Daimler-Benz amalgamated in 1926.

Proofreading is a Dying Art these days!
Typhoon Rips Through Cemetery;
Hundreds Dead
Did I read that right?



THIS COULD SAVE US A BUNDLE ON ELECTRICITY . . . BY THE WAY, BOB, HOW FAST CAN YOU RUN??

Lose the Excuse @ Electricity

Switch off lights and fans when not required. Turn off lights even when leaving the room for a short time.



Replace bulbs with tube lights & CFL (Compact Fluorescent Lamps).



Don't keep electronic appliances and devices on standby mode. Switch them off. Better still, unplug them from the socket altogether.

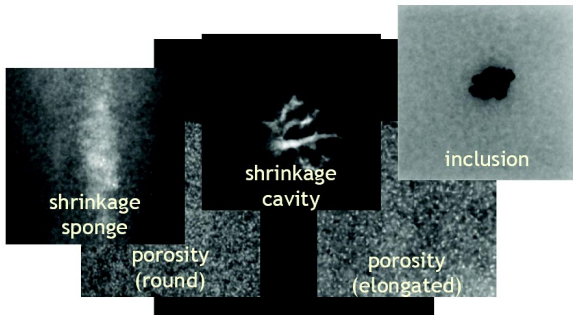


Purchase appliances with the Energy Star label; old refrigerators, for example, use up to 50% more electricity than newer models.



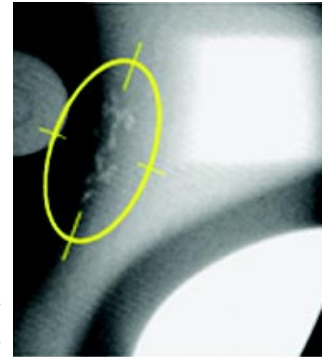
Tek Talk - SYNERGIES ensures Safety with Automatic Defect recognition

Light-alloy castings used in the automotive industry, viz. wheel rims, steering knuckles and suspension links are critical load bearing components and need to be checked thoroughly to ensure overall road worthiness. Casting quality plays a major role in road worthiness.



To ensure defect free, perfect castings, radioscopy is used to identify any casting discontinuities either visually or through computer-aided analysis of X-ray images. This NDT helps detect the minutest of imperfections. But radiography typically involves inspection by certified radiologists limiting the production and accuracy to the objectivity of the radiologist.

Examples of such discontinuities in light-alloy wheels are shown in the X-ray image

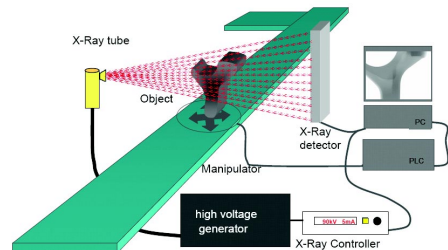


Void in a radiosopic image of an alloy wheel

Typical defects in Aluminium castings

were introduced to detect discontinuities automatically without human interaction. This has the following advantages - higher throughput than manual visual inspection, inspection quality is independent of operator and time (no Monday morning blues), gives reproducible results, no requirement of certified radiologists for inspection and feasibility of direct feedback via closed loop controls to casting process.

In recent times automatic radiosopic systems

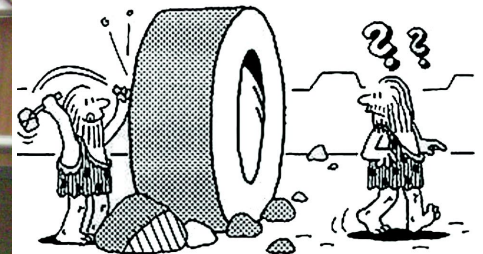


Principle aspects of an automated X-ray inspection unit

The automated radiosopic systems raise the quality of critical components through repeated objective inspections and improved processes, but have implications linked to the number of similar components processed per day to exploit productivity potential.

Every small perfection contributes to your safety... and SYNERGIES with its Automatic Defect Recognition machine gives you *'enhanced overall road worthy'* components. SYNERGIES wheels for enhanced safety; yet another drive towards 360° perfektion !!

Automatic Defect Recognition



Do You Know

1. In which country did the world's first organised motor race occur?
2. What is the device that allows a cars driving wheels to turn at different speeds when cornering?
3. Who designed the Volkswagen Beetle?
4. Which Beatles album includes the song "Drive my Car"?
5. How long does it take to build one Rolls-Royce automobile?
6. What does a 'drosometer' measure: light, the tread on a car tyre or dew?
7. What was the name of the Benedictine monk who legend has it invented Champagne?
8. Until Henry Ford formed his own company in 1903, which great inventor-friend employed him?
9. What was Rolls of Rolls Royce fame first name?
10. Who designed the Volkswagen Beetle?

- Answers**
- | | | | |
|-------------------------|-----------------------|----------------------|----------------|
| 1. France | 2. Differential | 3. Ferdinand Porsche | 4. Rubber Soul |
| 5. About 30 days (1997) | 6. Dew | 7. Dom Perignon | 8. Thomas |
| 9. Charles. | 10. Ferdinand Porsche | | |

VIZAG - The Home of SYNERGIES...

Excellent Infrastructure

Visakhapatnam is well connected by road, rail, air and sea... a major city on the east coast of India, Vizag is connected by the National Highway 5 - NH5 and is a part of the Golden Quadrilateral connecting Chennai and Kolkata. The highway is an important route for transporting cargo and travelling. The residents use the extensive public transport by the APSRTC and a Bus Rapid



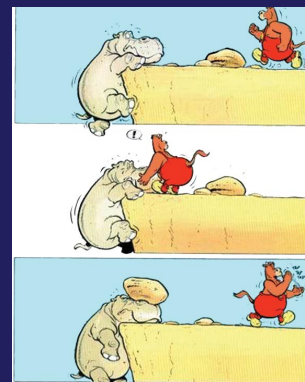
Transit System with dedicated lanes for efficient and high speed mode transport is underway with JNNURM.

A major railway station on the Chennai-Howrah main line of the East Coast Railway Vizag is well connected to all the major cities in the country.

The Vizag airport is the busiest in the country after the six metros and Ahmedabad. The airport was one of the few chosen by the center for modernization including facilities like aerobridges, immigration booths, night landing facilities and a new 10,000 feet long runway to accommodate international flights and larger aircrafts. Visakhapatnam is well connected with daily flights from all the major cities.



With the largest natural harbour, Visakhapatnam Port is one of the busiest ports in India and serves as the gateway of waterways for the state of Andhra Pradesh. The Gangavaram sea port is India's deepest sea port. Together they provide the backbone to allow Vizag realise its destiny of being the fastest growing metro in the world.



Moral of the Picture:
FRIENDS may not be able to PULL you up...
BUT
THEY will still think of ways not to let you FALL...

Magic Square

Some numbers in this magic square are missing. Use multiples of 7 (7,14,21,...) to fill the yellow squares and multiples of 8 (8,16,24,...) in the orange ones to complete the square.

1		3	61	12	54	10	
	50		52	5	59		57
17	47	19	45		38	26	
	34	30		36		43	23
53	11	55	9		2	62	4
60	6	58			15	51	13
37	27	39	25		18	46	20
44	22			33	31		29

Hint: The numbers in each vertical column, horizontal row and the two diagonals add up to the same number. Similarly, every quadrant of four squares also adds up to another matching figure.

Answers to the last issue's KENKEN

3	2÷	16x	4	9+	
3	6	1	4	5	2
5-		4	6	2	15x
1	3	4	6	2	5
6	2÷	2	4-	1	3
6	4	2	5	1	3
2+		2-	3	24x	6
2	1	5	3	4	6
100x		6x	2	5-	1
4	5	3	2	6	1
5	3÷	6	4+	3	4
	2	6	1	3	4

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