



**MIRA INFORM PRIVATE LIMITED**  
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**PARTICLE MEASURING SYSTEMS, INC. - 510601.2 - SUPPLEMENTARY REPORT**

**PAGE NO. : 1**

**MIRA INFORM REPORT**

Report No. :	510601.2
Report Date :	16.08.2018

**IDENTIFICATION DETAILS**

Name :	PARTICLE MEASURING SYSTEMS, INC.
Registered Office :	3773 Cherry Creek North Drive #575, Denver, CO 80209
Country :	United States
Financials (as on) :	2017 [Summarized]
Date of Incorporation :	1972
Legal Form :	Corporation
Line of Business :	Subject develops and manufactures contamination monitoring solutions for semiconductor, data storage, display, pharmaceutical, nanomaterial, aerospace, and related industrial manufacturing applications.
No. of Employees :	210

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***PARTICLE MEASURING SYSTEMS, INC. - 510601.2 - SUPPLEMENTARY REPORT***

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**RATING & COMMENTS**

(Mira Inform has adopted New Rating mechanism w.e.f. 23<sup>rd</sup> January 2017)

**MIRA's Rating :**

A+

Credit Rating	Explanation	Rating Comments
A+	Low Risk	Business dealings permissible with low risk of default

<b>Status :</b>	Good
<b>Payment Behaviour :</b>	Regular
<b>Litigation :</b>	--

**NOTES :**

Any query related to this report can be made on e-mail : [infodept@mirainform.com](mailto:infodept@mirainform.com) while quoting report number, name and date.

**ECGC Country Risk Classification List**

Country Name	Previous Rating (31.12.2017)	Current Rating (01.04.2018)
United States	A1	A1

Risk Category	ECGC Classification
Insignificant	A1
Low Risk	A2
Moderately Low Risk	B1
Moderate Risk	B2
Moderately High Risk	C1
High Risk	C2
Very High Risk	D

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**UNITED STATES - ECONOMIC OVERVIEW**

The US has the most technologically powerful economy in the world, with a per capita GDP of \$59,500. US firms are at or near the forefront in technological advances, especially in computers, pharmaceuticals, and medical, aerospace, and military equipment; however, their advantage has narrowed since the end of World War II. Based on a comparison of GDP measured at purchasing power parity conversion rates, the US economy in 2014, having stood as the largest in the world for more than a century, slipped into second place behind China, which has more than tripled the US growth rate for each year of the past four decades.

In the US, private individuals and business firms make most of the decisions, and the federal and state governments buy needed goods and services predominantly in the private marketplace. US business firms enjoy greater flexibility than their counterparts in Western Europe and Japan in decisions to expand capital plant, to lay off surplus workers, and to develop new products. At the same time, businesses face higher barriers to enter their rivals' home markets than foreign firms face entering US markets.

Long-term problems for the US include stagnation of wages for lower-income families, inadequate investment in deteriorating infrastructure, rapidly rising medical and pension costs of an aging population, energy shortages, and sizable current account and budget deficits.

The onrush of technology has been a driving factor in the gradual development of a "two-tier" labor market in which those at the bottom lack the education and the professional/technical skills of those at the top and, more and more, fail to get comparable pay raises, health insurance coverage, and other benefits. But the globalization of trade, and especially the rise of low-wage producers such as China, has put additional downward pressure on wages and upward pressure on the return to capital. Since 1975, practically all the gains in household income have gone to the top 20% of households. Since 1996, dividends and capital gains have grown faster than wages or any other category of after-tax income.

Imported oil accounts for more than 50% of US consumption and oil has a major impact on the overall health of the economy. Crude oil prices doubled between 2001 and 2006, the year home prices peaked; higher gasoline prices ate into consumers' budgets and many individuals fell behind in their mortgage payments. Oil prices climbed another 50% between 2006 and 2008, and bank foreclosures more than doubled in the same period. Besides dampening the housing market, soaring oil prices caused a drop in the value of the dollar and a deterioration in the US merchandise trade deficit, which peaked at \$840 billion in 2008. Because the US economy is energy-intensive, falling oil prices since 2013 have alleviated many of the problems the earlier increases had created.

The sub-prime mortgage crisis, falling home prices, investment bank failures, tight credit, and the global economic downturn pushed the US into a recession by mid-2008. GDP contracted until the third quarter of 2009, the deepest and longest downturn since the Great Depression. To help stabilize financial markets, the US Congress established a \$700 billion Troubled Asset Relief Program in October 2008. The government used some of these funds to purchase equity in US banks and industrial corporations, much of which had been returned to the government by early 2011. In January 2009, Congress passed and former President Barack OBAMA signed a bill providing an additional \$787 billion fiscal stimulus to be used over 10 years - two-thirds on additional spending and one-third on tax cuts - to create jobs and to help the economy recover. In 2010 and 2011, the federal budget deficit reached nearly 9% of GDP. In 2012, the Federal Government reduced the growth of spending and the deficit shrank to 7.6% of GDP. US revenues from taxes and other sources are lower, as a percentage of GDP, than those of most other countries.

Wars in Iraq and Afghanistan required major shifts in national resources from civilian to military purposes and contributed to the growth of the budget deficit and public debt. Through FY 2018, the direct costs of the wars will have totaled more than \$1.9 trillion, according to US Government figures.

In March 2010, former President OBAMA signed into law the Patient Protection and Affordable Care Act (ACA), a health insurance reform that was designed to extend coverage to an additional 32 million Americans by 2016,

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through private health insurance for the general population and Medicaid for the impoverished. Total spending on healthcare - public plus private - rose from 9.0% of GDP in 1980 to 17.9% in 2010.

In July 2010, the former president signed the DODD-FRANK Wall Street Reform and Consumer Protection Act, a law designed to promote financial stability by protecting consumers from financial abuses, ending taxpayer bailouts of financial firms, dealing with troubled banks that are "too big to fail," and improving accountability and transparency in the financial system - in particular, by requiring certain financial derivatives to be traded in markets that are subject to government regulation and oversight.

The Federal Reserve Board (Fed) announced plans in December 2012 to purchase \$85 billion per month of mortgage-backed and Treasury securities in an effort to hold down long-term interest rates, and to keep short-term rates near zero until unemployment dropped below 6.5% or inflation rose above 2.5%. The Fed ended its purchases during the summer of 2014, after the unemployment rate dropped to 6.2%, inflation stood at 1.7%, and public debt fell below 74% of GDP. In December 2015, the Fed raised its target for the benchmark federal funds rate by 0.25%, the first increase since the recession began. With continued low growth, the Fed opted to raise rates several times since then, and in December 2017, the target rate stood at 1.5%.

In December 2017, Congress passed and President Donald TRUMP signed the Tax Cuts and Jobs Act, which, among its various provisions, reduces the corporate tax rate from 35% to 21%; lowers the individual tax rate for those with the highest incomes from 39.6% to 37%, and by lesser percentages for those at lower income levels; changes many deductions and credits used to calculate taxable income; and eliminates in 2019 the penalty imposed on taxpayers who do not obtain the minimum amount of health insurance required under the ACA. The new taxes took effect on 1 January 2018; the tax cut for corporations are permanent, but those for individuals are scheduled to expire after 2025. The Joint Committee on Taxation (JCT) under the Congressional Budget Office estimates that the new law will reduce tax revenues and increase the federal deficit by about \$1.45 trillion over the 2018-2027 period. This amount would decline if economic growth were to exceed the JCT's estimate.

Source : CIA



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## **STATUTORY INFORMATION**

<b>Legal Name</b>	PARTICLE MEASURING SYSTEMS, INC.
<b>Trade Name</b>	PARTICLE MEASURING SYSTEMS, INC.
<b>ID</b>	ID
<b>ID Details</b>	19871264849
<b>Creation Date</b>	1972
<b>Incorporation Date</b>	10/26/1973
<b>Legal Address</b>	3773 Cherry Creek North Drive #575, Denver, CO 80209, United States
<b>Operative Address</b>	5475 Airport Boulevard, Boulder, CO 80301, United States
<b>Telephone</b>	303-443-7100
<b>Fax</b>	303-449-6870
<b>Legal Form</b>	CORPORATION
<b>E-Mail</b>	-
<b>Registered In</b>	COLORADO
<b>Website</b>	www.pmeasuring.com
<b>Contact</b>	Mr. John Mitchell - Chief Executive Officer and President
<b>Staff</b>	210
<b>Activity</b>	SIC Code: 7389, Business Services, NEC NAICS Code: 541990, All Other Professional, Scientific, and Technical Services

## **BANKS**

<b>Name of Bank</b>	<b>Reported Amount</b>
BANK OF AMERICA	

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## **HISTORY**

### **History**

Particle Measuring Systems, Inc. was founded in 1972 and is headquartered in Boulder, Colorado.

### **Key Developments**

#### **Particle Measuring Systems, Inc. Presents at SEMICON Korea 2018, Jan-31-2018**

**Jan 29 18**

Particle Measuring Systems, Inc. Presents at SEMICON Korea 2018, Jan-31-2018 . Venue: The COEX, Seoul, South Korea. Speakers: Dan Rodier, Technology Development Manager.

#### **Particle Measuring Systems and Novatek International Form Strategic Partnership Sep 14 17**

Particle Measuring Systems and Novatek International announced a global partnership providing a fully integrated and comprehensive software and hardware solution towards a risk-based approach for the environmental monitoring in controlled manufacturing processes. This integrated solution helps companies identify contamination in their production processes before it occurs. With the ability to preemptively correct a problem it is easier to achieve and maintain a state of control. This helps maintain consistent product quality and reduces the costly risk associated with loss of product and product recalls. PMS is focused on providing complete sterility assurance solutions to the life sciences industry. The Nova-EM software is an excellent next step to Facility Pro environmental monitoring system and provides customer with the secure data management that they need to succeed.

#### **Particle Measuring Systems Releases the Lasair III aerosol particle counter with several upgraded enhancements**

**Nov 8 16**

Particle Measuring Systems has announced the release of the new Lasair III Cleanroom Particle Counter with enhancements to stay ahead of new industry requirements while also improving usability. The Lasair III now has Alarm Reason Management, Modbus TCP/IP communications, ISO 14644-1:2015 Statistics, and internal WiFi Communications. The new alarm reason management feature allows the user to immediately identify the root cause of contamination that decreases troubleshooting time and its impact on



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**Parent Company**

product time to release. The Modbus TCP/IP communications feature enhances the instrument's flexibility for easier integration into third party monitoring systems, while the internal WiFi option allows data download to DataAnalyst Software or through built-in Web Browser. The user can also perform sample, location and recipe configuration with remote wireless control with the added bonus of having an instrument that is easy to clean.

As of 1996, Particle Measuring Systems, Inc. operates as a subsidiary of:  
Spectris plc.  
Heritage House  
Church Road  
Egham, TW20 9QD  
United Kingdom

***PRINCIPAL ACTIVITY***

**General Description**

Particle Measuring Systems, Inc. develops and manufactures contamination monitoring solutions for semiconductor, data storage, display, pharmaceutical, nanomaterial, aerospace, and related industrial manufacturing applications.

**Service/Product Description**

It offers air and gas particle counters, liquid particle counters, microbial contamination monitors, molecular contamination monitors, facility monitoring systems and software, and microbial sampling and sterility assurance products. The company also offers FacilityPro Software that provides the interface, data management, and reporting for an environmental monitoring system; Facility Net Software, an environmental monitoring solution; and ENODE Controller, an input/output device for electrical signals. In addition, it offers DataAnalyst Software, a data management solution; SamplerSight Pharma Software that controls syringe operated samplers and collects data from a LiQuilaz particle; and SamplerSight, a software program for operating batch-based liquid particle measurement. Further, the company provides service repair and calibration, hardware and software support, consulting, project management, and rentals; and continuing education program for industry professionals.

**Sales**

Wholesale

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<b>Operations Area</b>	National and International
<b>Imports From</b>	INDIA, MALAYSIA
<b>Export To</b>	COLOMBIA, MEXICO
<b>Employees</b>	210 employees
<b>Payments with Suppliers</b>	Regular

**BRANDS**

**Brand**

LASAIR

SHUR-SHOT

AIRSENTRY-IMS

STACKMASTER-IMS

PROSENTRY-IMS

**Comments**

**CLIENTS**

<b>Name of Client</b>	<b>Country</b>	<b>Comments</b>
Iq Electronics Colombia Ltda	COLOMBIA	-
TECNYCA LTDA	COLOMBIA	-
Serral Sa De Cv	MEXICO	-

**Comments**

It serves industries, such as pharmaceuticals/life sciences, semiconductor/microelectronics, aerospace and defence, food and beverage, industrial manufacturing, research and development, photonics and optics, service and support, service repair and calibration, hardware and software support, customer service, consulting, project management, and rentals. The company offers its products through distributors in the United States and internationally.

**SUPPLIERS**

<b>Supplier Name</b>	<b>Country</b>	<b>Comments</b>
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Pyramid Airtech Pvt., Ltd.	INDIA	-
Advanced Ceramics Technology	MALAYSIA	-
Aimil	INDIA	-
<b>Comments</b>		-

***LOCATION***

<b>Headquarters</b>	5475 Airport Boulevard, Boulder, CO 80301, United States
<b>Branches</b>	Particle Measuring Systems, Inc. 101 FAIRWAY DR WASHINGTON, NC, 27889-9209 United States

***GROUP STRUCTURE AND SUBSIDIARY COMPANIES***

<b>Listed at the stock exchange</b>	NO
<b>Capital</b>	NA
<b>Shareholders (%)</b>	The company does not disclose information on shareholders. The following information has been provided by private sources: As of 1996, Particle Measuring Systems, Inc. operates as a subsidiary of: Spectris plc. Heritage House Church Road Egham, TW20 9QD United Kingdom
<b>Management</b>	Mr. John Mitchell - Chief Executive Officer and President Mr. Andrew Cowan - Vice President of Finance Mr. Brad Schindler - Director of Operations Ms. Sarah Routa - Director of Human Resources Mr. Bill Su - Director of Asia Pacific
<b>Subsidiary Companies</b>	No subsidiary companies were found.
<b>Related Companies</b>	The company has several sister companies. Some of them are:

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Malvern Instruments Ltd.  
Enigma Business Park  
Groewood Lane  
Malvern, WR14 1XZ  
United Kingdom

ESG SOLUTIONS  
20 Hyperion Court  
Kingston, ON K7K 7K2  
Canada

OMEGA Engineering, Inc.  
One Omega Drive  
P.O. Box 4047  
Stamford, CT 06907-0047  
United States

***FINANCIAL INFORMATION***

<b>General Description</b>	We attach the parent's last financial statements.
<b>Year/Currency</b>	The company does not make its financial statements public. The following information has been provided by private sources: USD 2017
<b>Sales</b>	50.000.000
<b>Money Flow</b>	Normal
<b>IMPORT FOB DOLLAR</b>	
<b>Year</b>	<b>Amount</b>
There are not Import Fob Dollar informed	
<b>EXPORT FOB DOLLAR</b>	
<b>Year</b>	<b>Amount</b>
There are not Export Fob Dollar informed	

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## **LEGAL FILINGS**

### **Lawsuits**

Particle Measuring Systems, Inc. v. Lighthouse  
Worldwide Solutions, Inc.  
Plaintiff: Particle Measuring Systems, Inc.  
Defendant: Lighthouse Worldwide Solutions, Inc.  
Case Number: 1:2009cv02882  
Filed: December 9, 2009  
Court: Colorado District Court  
Office: Denver Office  
County: Boulder  
Presiding Judge: Zita L. Weinshienk  
Referring Judge: Michael J. Watanabe  
Nature of Suit: Patent  
Cause of Action: 35:271 Patent Infringement  
Jury Demanded By: Plaintiff

Yufa v. Particle Measuring Systems, Inc.  
Plaintiff: Aleksandr L. Yufa  
Defendant: Particle Measuring Systems, Inc.  
Case Number: 3:2009cv01388  
Filed: March 30, 2009  
Court: California Northern District Court  
Office: Patent Office  
County: San Bernardino  
Presiding Judge: James Larson  
Nature of Suit: Plaintiff  
Cause of Action: Federal Question  
Jury Demanded By: 35:145 Patent Infringement

Particle Measuring Systems, Inc. v. TSI, Inc. et al  
Plaintiff: Particle Measuring Systems, Inc.  
Defendant: TSI, Inc. and Colorado TMA, LLC  
Case Number: 1:2008cv00344  
Filed: February 20, 2008  
Court: Colorado District Court  
Office: Denver Office  
County: Boulder  
Presiding Judge: Marcia S. Krieger  
Nature of Suit: Patent  
Cause of Action: 35:271 Patent Infringement  
Jury Demanded By: Plaintiff  
LASAIR  
AEROSOL PARTICLE COUNTERS  
Owned by: PARTICLE MEASURING SYSTEMS, INC.  
Serial Number: 73807261

### **Trademarks**

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**SHUR-SHOT**

electronic hydrogen fluoride leak detector  
Owned by: PARTICLE MEASURING SYSTEMS, INC.  
Serial Number: 74234268

**AIRSENTRY-IMS**

air quality monitor for toxic atmospheric pollutants for  
commercial use  
Owned by: PARTICLE MEASURING SYSTEMS, INC.  
Serial Number: 75017159

**STACKMASTER-IMS**

air quality monitor  
Owned by: PARTICLE MEASURING SYSTEMS, INC.  
Serial Number: 75017555

**PROSENTRY-IMS**

air quality monitor  
Owned by: PARTICLE MEASURING SYSTEMS, INC.  
Serial Number: 75017556

**IONPRO-IMS**

analyzers to monitor hazardous gases in ambient,  
process and stack gases  
Owned by: PARTICLE MEASURING SYSTEMS, INC.  
Serial Number: 75240312

**DATA TOUCH**

laboratory equipment, namely, data acquisition systems  
and displays for interfacing with particle measurement  
sensors for...

Owned by: PARTICLE MEASURING SYSTEMS, INC.  
Serial Number: 75330282

Chemical mechanical planarization (CMP) slurry quality  
control process and particle size distribution measuring  
systems

Patent number: 6275290

Abstract: A sensitive particle distribution probe uses  
special processing including a modified  
Twomey/Chahine iterative convergence technique and  
a specially constructed sample cell to obtain particle  
size distribution measurements from optically dense  
slurries, such as the slurries used in the semiconductor  
industry for chemical mechanical planarization.  
Spectral transmission data is taken over the spectral  
range of 0.20-2.5 microns, utilizing specially  
constructed, chemically resistant sample cells of 50-  
2000 microns thickness, and miniature, fixed grating,  
linear detector array spectrometers. At wavelengths

**Patents Registered**

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greater than one micron, the preferred design utilizes InGaAs linear detector arrays. An ultrasonic disrupter can be employed to breakup harmless soft agglomerates. In addition to direct particle size distribution measurement, the invention described here could be used to detect other fundamental causes of slurry degradation, such as foaming and jelling.

Type: Grant

Filed: April 22, 1999

Date of Patent: August 14, 2001

Assignee: Particle Measuring Systems, Inc.

Inventors: Todd A. Cerni, Scott Waisanen, Dennis J. Knowlton

Active filtration system for controlling cleanroom environments

Patent number: 9808760

Abstract: This invention is in the field of systems and methods for controlling contamination in high purity environments. This invention relates generally to particulate filtering and treatment of molecular contamination and process gases in enclosures, such as cleanrooms, contamination controlled manufacturing environments, mini-environments, isolators, glove boxes and restricted air barrier systems (RABS). The invention is capable of chemically transforming molecular contamination and process gases into less reactive or inert reaction products while at the same time decreasing the level of biological and nonbiological particulates.

Type: Grant

Filed: June 6, 2017

Date of Patent: November 7, 2017

Assignees: PARTICLE MEASURING SYSTEMS, INC.,  
PARTICLE MEASURING SYSTEMS, S.R.L.

Inventors: Gerald Gromala, Ronald W. Adkins, Gilberto Dalmaso, Brian A. Knollenberg, Daniel Rodier

Method of treating a cleanroom enclosure

Patent number: 9682345

Abstract: This invention is in the field of systems and methods for controlling contamination in high purity environments. This invention relates generally to particulate filtering and treatment of molecular contamination and process gases in enclosures, such as cleanrooms, contamination controlled manufacturing environments, mini-environments, isolators, glove boxes and restricted air barrier systems (RABS). The invention is capable of chemically transforming

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molecular contamination and process gases into less reactive or inert reaction products while at the same time decreasing the level of biological and nonbiological particulates.

Type: Grant

Filed: July 7, 2015

Date of Patent: June 20, 2017

Assignees: PARTICLE MEASURING SYSTEMS, INC.,  
PARTICLE MEASURING SYSTEMS, S.R.L.

Inventors: Gerald Gromala, Ronald W. Adkins, Gilberto Dalmaso, Brian A. Knollenberg, Daniel Rodier

Method and apparatus for orienting and measuring fibrous particles

Patent number: 4027162

Abstract: Method and apparatus for orienting and measuring fibrous particles by conducting longitudinally oriented fibrous particles through a beam of radiation and measuring the radiation scattered in a direction aligned with the length of such particle and, independently, also measuring the amount of radiation scattered transverse to the length of the particle. Preferably, the measurements are accomplished utilizing a sensor having an inactive center portion substantially corresponding to the area of undisturbed beam of radiation, a first photosensitive area in a portion of the sensor aligned with the length of the particles, and a second, independent photosensitive area transverse to the length of the particle. Signals generated by the two photosensitive areas are added to determine the size of the particles, and the ratio between the signals is established to determine the aspect ratio of the particle.

Type: Grant

Filed: April 26, 1976

Date of Patent: May 31, 1977

Assignee: Particle Measuring Systems, Inc.

Inventor: Robert G. Knollenberg

Event Date Filed Effective Date Document #

Articles of Incorporation 10/26/1973 10/26/1973  
19871264849

Amendment 09/27/1983 09/27/1983 19871539600

Status Changed 09/30/1987 09/30/1987

Report 12/13/1990 12/13/1990 19851017833

Report Printed 09/19/1991 09/19/1991

Report Printed 01/24/1992 01/24/1992

Status Changed 04/01/1992 04/01/1992

Reinstatement 10/14/1992 10/14/1992 19921100042

Report 12/19/1992 12/19/1992 19871038986

**Renewals**

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UCC (Uniform Commercial Code)  
OFAC Sanctions List Search

Trade Name 02/16/1993 02/16/1993 19931016462  
No records found.  
The company is not listed in the OFAC Sanctions List,.

## ***SUMMARY***

### Summary

Founded in 1972, PARTICLE MEASURING SYSTEMS, INC. is an organization in the All Other Professional, Scientific, and Technical Services Industry headquartered in Boulder, CO. The company has 210 regular employees and generates an estimated \$50 million USD in annual revenue. It operates nationally and internationally, mainly exporting to Colombia and Mexico. It is ACTIVE in business with no negative records.

## ***RISK INFORMATION***

Debts	Controlled
Payments	Regular
Cash Flow	Normal
State	Active

## ***INTERVIEW***

First Name	Kate
Position	Receptionist
Comments	She confirmed the name of the company, the address of the headquarters and location, the date of creation of the company, the company's website and the name of the Chief Executive Officer. She was reluctant to provide further information by telephone.

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**FOREIGN EXCHANGE RATES**

Currency	Unit	Indian Rupees
US Dollar	1	INR 69.47
UK Pound	1	INR 88.63
Euro	1	INR 79.19
USD	1	INR 70.11

**Note :** Above are approximate rates obtained from sources believed to be correct

**INFORMATION DETAILS**

<b>Analysis Done by :</b>	VIVR
<b>Report Prepared by :</b>	SYL

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**RATING EXPLANATIONS**

<b>Credit Rating</b>	<b>Explanation</b>	<b>Rating Comments</b>
A++	Minimum Risk	Business dealings permissible with minimum risk of default
A+	Low Risk	Business dealings permissible with low risk of default
A	Acceptable Risk	Business dealings permissible with moderate risk of default
B	Medium Risk	Business dealings permissible on a regular monitoring basis
C	Medium High Risk	Business dealings permissible preferably on secured basis
D	High Risk	Business dealing not recommended or on secured terms only
NB	New Business	No recommendation can be done due to business in infancy stage
NT	No Trace	No recommendation can be done as the business is not traceable

NB is stated where there is insufficient information to facilitate rating. However, it is not to be considered as unfavourable.

This score serves as a reference to assess SC's credit risk and to set the amount of credit to be extended. It is calculated from a composite of weighted scores obtained from each of the major sections of this report. The assessed factors are as follows:

- Financial condition covering various ratios
- Company background and operations size
- Promoters / Management background
- Payment record
- Litigation against the subject
- Industry scenario / competitor analysis
- Supplier / Customer / Banker review (wherever available)

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