

State Associations News

Following are the reports of activities submitted by the various State Association Members of TEEAM.



Penang Electrical Merchants' Association

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59th Annual General Meeting

PEMA 59th Annual General Meeting (AGM) was held on 31st March 2007 at the PEMA Conference Room. PEMA President, Mr Hong Yeam Wah in his welcome address extended his appreciation to all members for their enthusiastic support and concern for the affairs of the Association. He informed that next year, PEMA will be celebrating its 60th anniversary celebration on a grand scale. In conjunction with the celebration the association has started a fund raising campaign to raise fund for up to RM 150,000 within the next 3 years for the PEMA Education Fund. He hopes that members will give their full supports as in previous years.



During the AGM – Mr Hong Yeam Wah (centre) chairing the AGM.

Charity Golf Tournament 2007

The PEMA Charity Golf Tournament 2007 was successfully held at the Bukit Jambul Country Club, Penang on 11th March 2007. A total of 82 golfers participated in this year's tournament. The net proceeds of more than RM 16,000.00 from the tournament will go to the PEMA Education Fund which will be used to provide financial aids/scholarships to PEMA members' children who have achieved good results in their examinations or are pursuing tertiary education.

A big thank you was recorded to all the generous sponsors and the Chairman and Co-Chairman of the tournament, Mr Teoh Yew Yean of Grouplite Engineering Sdn Bhd and Mr Lee Kuan Meng of Chi-Tak Electrical Sdn Bhd respectively for ensuring that the tournament was smoothly organised.



Networking – Golfers posing for the album.

59th Anniversary Dinner

PEMA celebrated its 59th Anniversary Dinner Celebration at the Midland Court Restaurant, Penang on 27th May 2007. A total of more than 300 guests and members including advisors and trustees attended the dinner.

In his opening speech, PEMA President, Mr Hong Yeam Wah expressed his heartfelt thanks to all the members, distinguished guests, advisers and trustees who have gathered to join the celebration. He informed that PEMA's 60th Anniversary Celebration next year would be held on a grand scale. Highlights of the dinner were karaoke, cake cutting ceremony, lucky draw and presentation of certificates to new members.



Anniversary celebration – Cake cutting ceremony held at the dinner.

Academic Awards Presentation 2007

The PEMA Academic Awards Presentation 2007 was held on 1st July 2007 at the Tanjong Country Club, Penang. Mr Hong Yeam Wah (President), Mr Choo Kwang Wah (Past President), Mr Lee Thean Chor (Trustee) and Mr Ooi Kok Kee (Education Committee Chairman) presented the certificates to 46 successful recipients.



Well done! – A group photo for the album.

Technical Visit

A technical visit to the Thai Trafo Transformer Factory, Bangkok was organised by the External Affairs Committee Chairman, Mr Teoh Yew Yean from 28th to 30th March 2007. The visit was participated by ten PEMA members. It was very informative and it gave PEMA members a good insight into the transformers manufacturing practice.

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Training Course

A 1-day course on Numerical Protection, Short Circuit Currents and Power Factor Control was successfully organised by PEMA Technical Committee Chairman, Ir Chong Yew Lam at the Sunway Hotel, Penang on 22nd May 2007. The course aimed to generate awareness and to introduce the significance of numerical protection relays and earth leakage protection in relation with the short circuits currents and the techniques of power factor control. The course was endorsed by the Board of Engineers for eight CPD hours. The speakers were Ir Lee Chong Kiow and Mr Fong See Ni. The course was attended by 60 participants.



PEMA training course – 60 participants attended the training.

Courtesy Visit to TNB Pulau Pinang

An 8-member delegation led by PEMA President, Mr Hong Yeam Wah paid a courtesy visit to TNB Pulau Pinang General Manager, Tn Hj Ismail Hj Abdul Rahman on 14th May 2007. Mr Hong highlighted the activities of PEMA and the problems faced by its members. It was a fruitful visit and a four-point consensus was reached during the discussion.



Meeting in progress – Pressing issue being discussed between both parties.



Sabah Electrical Association

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10th Anniversary Dinner

The Sabah Electrical Association (PES) organised its 10th Anniversary Dinner on 10th February 2007 at Putera Theatre Ballroom, Kota Kinabalu, Sabah. Some 900 guests and members attended the dinner. Highlights of the dinner were lucky draw, singing, lion dance and presentation of 10 years long service awards to Committee Members, Past President and Secretariat Staff. Some generous donors to PES Building Fund were also presented with awards.



VVIP table – (from left) Dr Ir Jacob Yan (PES Technical Adviser), Mr Chung Kee Hung (PES 1st Vice President cum Dinner Organising Committee Chairman), Dato' Ir Lee Peng Joo (TEEAM President), Ir Shim Siong Lit (PES President) and Mr Tai Chong Loi (Secretary of Lahad Datu Electrical Entrepreneurs Association).



Congratulations to PES! - All VIPs are invited to the stage for the cake cutting ceremony.



Sarawak Electrical Association

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P. O. Box 1494, 93730 Kuching, Sarawak.
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E-mail: jfchew@pd.jaring.my

AGM & Election

The Sarawak Electrical Association (SEA) held its Annual General Meeting and election of office bearers on 20th May 2007. Mr Bernard Tan Hak Koon is the newly elected Chairman of SEA.

Office Bearers of SEA for the year 2007-2008

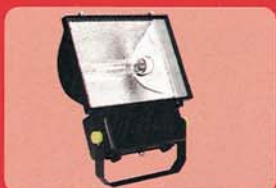
Chairman	Bernard Tan Hak Koon
1st Vice Chairman	Chai Nyan Luke
2nd Vice Chairman	Ling See Bing
Secretary (English)	Francis Chew Joon Fah
Secretary (Chinese)	Yeo Ngian Sock
Treasurer	Wong Foo Kok
Assistant Treasurer	Sim Kheng Kui
General Affair Officer	Then See Wee
Assistant General Affair Officer	Wong Kee Soong
Welfare Officer	Steven Lee
Assistant Welfare Officer	Leong Kong Yoi
Recreation Officer	Liew Thiam Fat
Assistant Recreation Officer	Ung Kah Kuok
Committee Members	Anthony Ting
	Ling Koh Kiong
	Felix Jong
	Michael Chin
	Koh Bok Heng
	Ngam Tong Leh
Auditors	Chew Tay Jee & Liew Jiew Fong
Trustees	Bernard Tan Hak Koon,
	Francis Chew Joon Fah
	& Wong Foo Kok

TEEAM Council Meeting

SEA Chairman, Mr Bernard Tan Hak Koon together with Mr Then See Wee (Past Chairman) and Mr Francis Chew Joon Fah (Secretary) attended the TEEAM Council Meeting in Johor Bahru on 16th June 2007.



SEA officials at the meeting – (from left) Mr Bernard Tan Hak Koon (Chairman), Mr Then See Wee (Past Chairman) and Mr Francis Chew Joon Fah (Secretary).



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Electrical Association of 3rd, 6th & 7th Divisions, Sibü

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Visit to Hydroelectric Station

The Electrical Association of 3rd, 6th & 7th Divisions, Sibü (EA 367) led by its Chairman, Mr Hii Hua Chuon organised a 26-member delegation to visit the biggest and most modern hydroelectric station in Fuzhou, China. He believes hydroelectric will become one of the important energy development in Sarawak.



Delegation to China – A group photo taken before departure at Sibü Airport.

Chinese New Year Gathering

The EA 367 organised a Chinese New Year Gathering dinner on 26th February 2007 at Blue Splendour Restaurant, Sibü, Sarawak. YB Dato' Sri Wong Soon Koh, the Second Finance Minister of Sarawak cum Minister of Infrastructure Development, Communications & Tourism, Sarawak was the guest of honour. Some 600 guests and members attended the dinner. Highlights of the dinner were entertainment of songs and dances as well as lucky draw.

During the dinner, YB Dato' Sri Wong highlighted that copper theft is being very rampant in Sarawak. He urged contractors to take preventive measures to safeguard their properties. The State government is trying to resolve the issue with the police.



Good support – A good turnout from the members of EA 367 and guests.



The Perak Electrical Association

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44th AGM

The Perak Electrical Association (PEA) held its 44th Annual General Meeting on 18th March 2007 at PEA premises. Some 30 members attended the AGM.

TEEAM Council Meeting

PEA, Deputy President, Ir Angus Ang Mei Yu attended the TEEAM Council Meeting in Johor Bahru on 16th June 2007.



PEA Deputy President – Ir Angus Ang Mei Yu at the TEEAM Council Meeting in JB.



Johor Bahru Electrical & Electronics Association

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AGM & Election

The Johor Bahru Electrical & Electronics Association (JBEEA) held its Annual General Meeting recently. Mr Chern Yen Ming was re-elected as the Chairman of JBEEA.

Office Bearers of JBEEA for the year 2007-2008

Chairman	Chern Yen Ming
Vice Chairman	Tan Eao Teck
Honorary Secretary	Leong Heng Peng
Assistant Honorary Secretary	Mok Tai Dwan
Honorary Treasurer	Ng Hong Chon
Assistant Honorary Treasurer	Chua Hock Leong
Committee Members	Leong Kam Meng
	Ngoe Wee Min
	Lim Suan Haw
	Lee Hai Soon
Auditors	Quek Kian Seng

Hosting TEEAM Council Meeting

JBEEA hosted the first Council Meeting of TEEAM for the new term 2007-2009 on 16th June 2007 at New York Hotel, Johor Bahru. A welcome dinner was also arranged at Mutiara Johor Bahru. TEEAM wishes to record its appreciation and thanks to JBEEA for their warm hospitality.



JBEEA officials at the meeting – (from left) Mr Leong Kam Meng (Committee Member), Mr Chern Yen Ming (Chairman) and Mr Leong Heng Peng (Honorary Secretary).

Other State Association Members' contacts:



Malacca Electrical Contractors and Traders Association

No. 389-G1, Taman Pringgit Jaya,
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Negeri Sembilan Electrical Engineering Association

c/o No. 194, Jalan Pantai, 71000 Port Dickson.
Tel: 606-647 1105 Fax: 606-647 4728

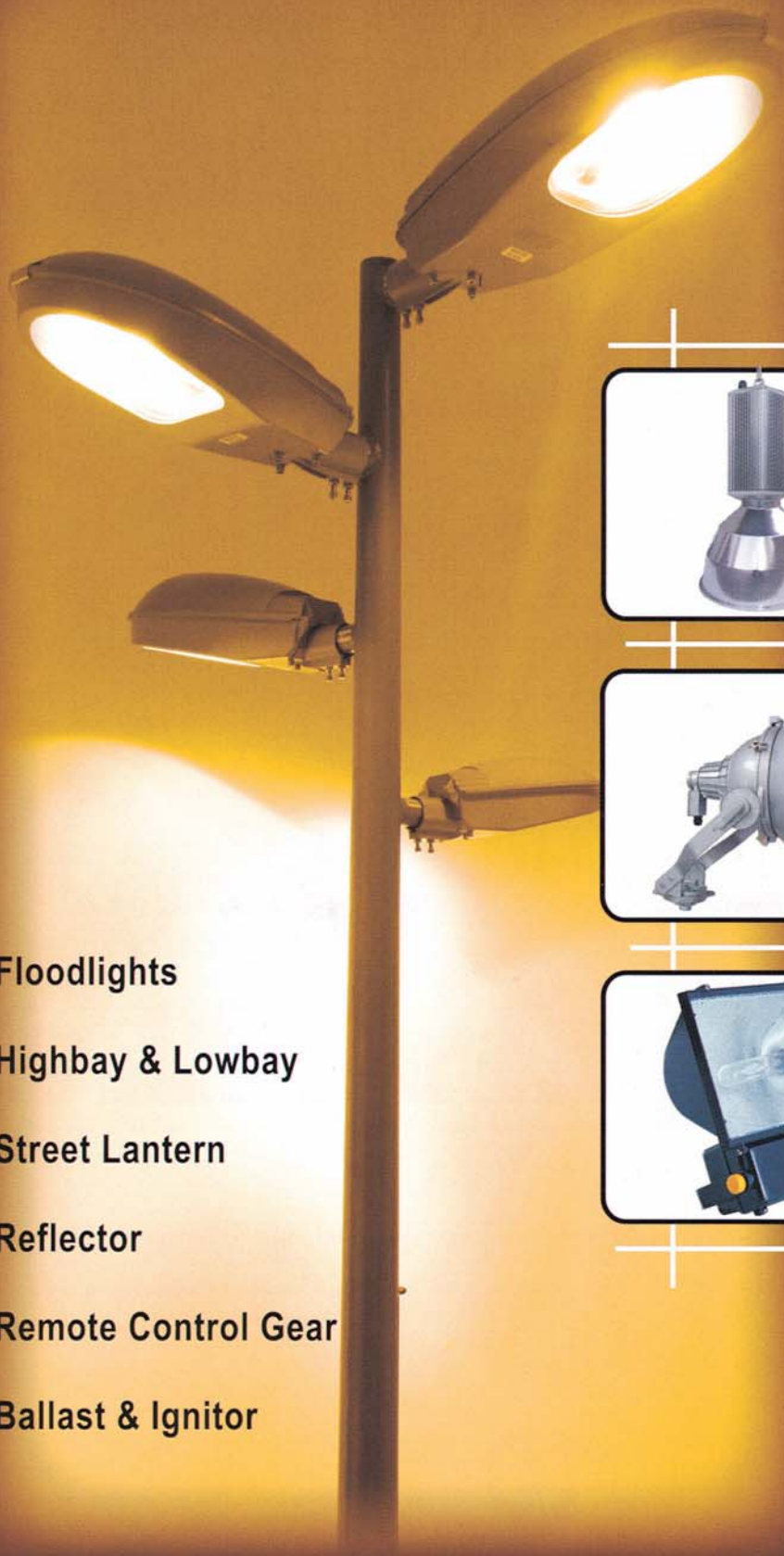
Sandakan Electrical Engineering Association

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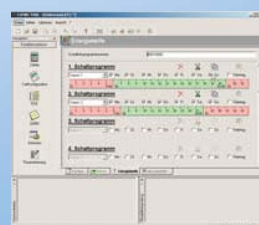
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Automatic Meter Reading – The Next Business Solution

Automatic Meter Reading (AMR) is generally defined as “Collection of data from utility meters and transferring these data to a central database for billing or revenue collection”. AMR remains today in Malaysia as a mysterious technology as there are not many solution providers available. As the IT technology grew, it is not surprising that AMR will be the next phase of metering norm. Many utility companies abroad are also using AMR as a way to improve customer service and energy management system. Many consulting engineers and building designers acknowledge the need to have this technology incorporated as a part of a modern design and solution to customers.

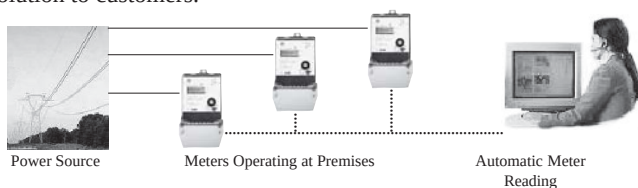


Figure 1: Typical Automatic Meter Reading

Technologies of AMR

Let us discuss the technology of AMR. In order for AMR to be possible in any environment, the meters must be able to digitise its intended information inside and must be able to re-transmit this data to a readable form in a remote location. Hence, a digital meter must be used in this scenario. Older meters that are based on the electro-mechanical design might not be suitable for this purpose.

These digital information must now be carried through a system and be relayed to a central database and a control center. This database will store and process the information downloaded from the meters. Modern systems also allows the same network to perform a bi-directional communication that allows the meters to be controlled from the same network. Tariff changes, time and date, instantaneous values and other queries can be performed.

There are a few types of technologies that are developed by the meter manufacturers for this purpose. They are hand held readers, mobile network (e.g. GSM), computer network (e.g. TCP/IP), telephony, radio frequency and Power Line Carriers. The selection of methods of AMR greatly depends on the availability of infrastructure within a network, cost of the network, cost to operate this network, geographical area of a network, numbers of meters in a network, bandwidth of a network among other issues.

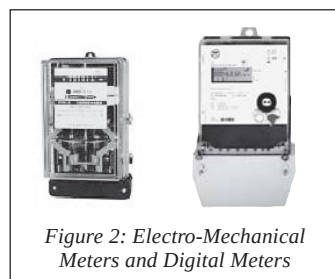


Figure 2: Electro-Mechanical Meters and Digital Meters

Meter Types and Requirements

The meters that are recommended for this application shall be of revenue class digital meters that are capable of communication. There are two distinct types of meters for this, Pulsed meters and direct comm (usually RS-485) meters.

AMR using Pulsed meters

Pulsed meters usually will transmit a pulse (extra low voltage signal) for a certain given number of metered value. This pulses will then be

collected by a DATA COLLECTOR. This data collector can usually collect for up to many numbers of pulse signals from meters. This allows multiple meters to be connected to a same DATA COLLECTOR. This collector will then re-transmit its information to the database. There are a few disadvantages in this system whereby bi-directional communication (read-write-control) cannot be achieved as naturally the system is a READ-ONLY SYSTEM. The DATA COLLECTOR is also vulnerable to failure. Once the data collector fails, the entire system has to be synchronised again as the counters in the meters and resetted DATA COLLECTOR are different now.

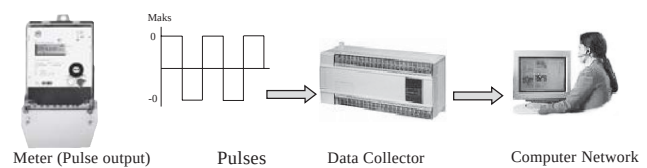


Figure 3: Pulsed output AMR

RS-485 revenue meters are specifically designed for the purpose of AMR. These meters store the information of all the values in its memory. By using the RS-485 cable, information in the meters transmitted directly from the meter memory to the database. This strategy employs a direct query from the central database to the meters. This way, the information will be much more accurate and have less problems. The meters can usually store up to many billing periods, assuming one billing period is one month, the meters will store information in its memory for many months. Even if the AMR system is down or unavailable, the meters will still be storing information. On the next available download, all the previous information will then be downloaded and no data is lost.

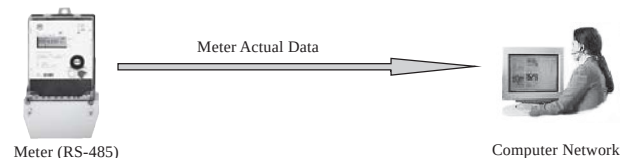


Figure 4: RS-485 AMR

Advantages and Benefits of AMR

AMR brings significant benefits to the operation of utility meters in minimising the need for manual meter readers to decipher each and every meter. Errors of meter reading in terms of multiplication factors, manual keying of values and misread meters are eliminated. This allows unprecedented accuracy of utility billing at on billing periods. Intermediate billing period readouts can be achieved at a touch of a button. Fair and accurate bills are often achieved which in turn minimises disputes and arguments.

For the utility provider, energy management is possible to minimise operational costs and improve efficiency. The demand trend can be targeted for the allocation of power to customers.

Many AMR meters also have a built in function of tamper detection. Over the years, there are many cases where the utility meters are tampered and the utility provider lose millions and millions of Ringgits in lost revenues. The built in memory of these meters allows any unauthorised tampering to be recorded. The meters can now be checked for discrepancies and tampering so that the utility can back charge the abuse and produce proof legally.

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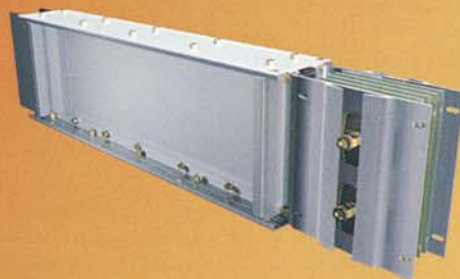
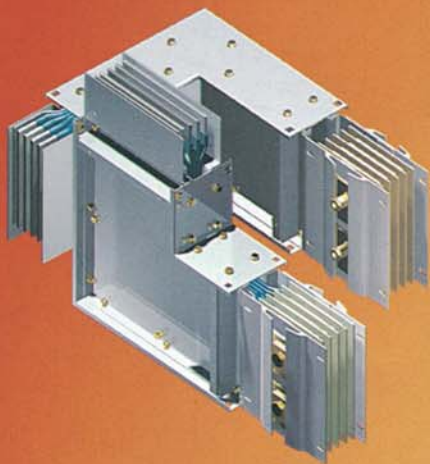
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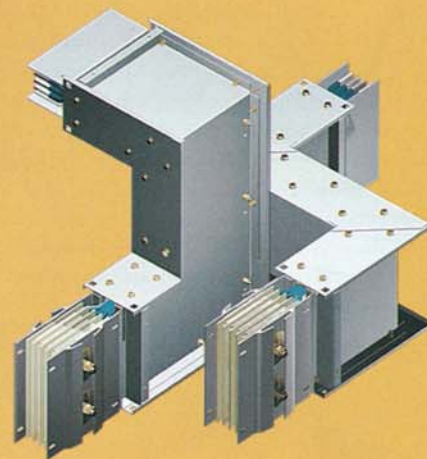
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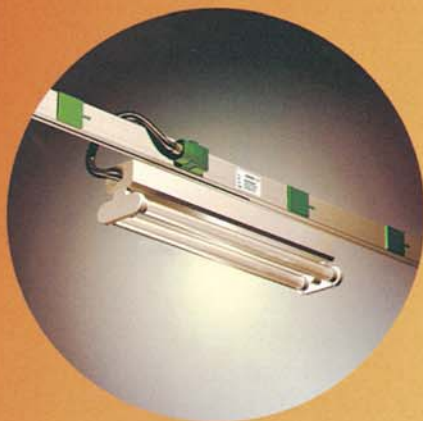
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..... Continue Automatic Meter Reading – The Next Business Solution

Application of AMR in Shopping Complexes (Typical Case Study)

A typical scenario in a shopping complex that utilises AMR is described in the diagram below.

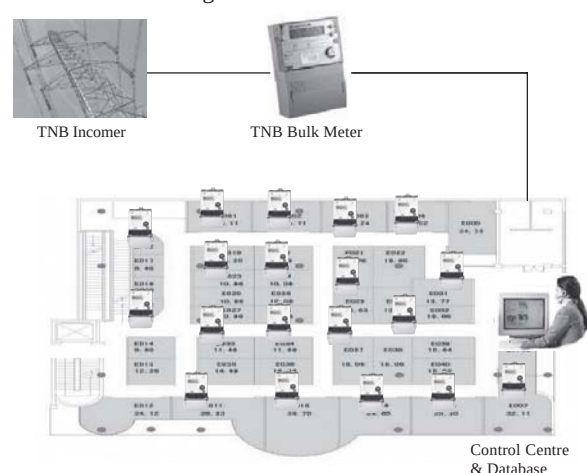


Figure 5 : Tenants AMR Meters by Landlord or Owner

The landlord of the shopping complex will take in its utility supply from Tenaga Nasional Berhad. Tenaga will meter this supply using its own meter. The landlord will now pay for the consumption of its tenants to Tenaga using this meter. The sub-meters located within the complex itself will be owned by the Landlord and all the tenants will then pay their own respective consumption using the Landlord's meters. Of course all the meters are connected in an AMR system and data is collected and processed by the management in the database and control center. In this scenario AMR offers great advantage to the landlord just as discussed earlier.

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Performance of the Manufacturing Sector

Overview

The manufacturing sector's contribution to Gross Domestic Product (GDP) increased to 31.1 per cent in 2006, compared with 30.8 per cent in 2005. The Industrial Production Index (IPI) increased by 7.5 per cent to 139, from 129.3 in 2005. This increase was due to strong global demand for manufactured goods. Sales of manufactured goods increased by 11.1 per cent to RM510.7 billion in 2006, from RM459.7 billion in 2005. Exports of manufactured goods accounted for 76.7 per cent of Malaysia's total exports, valued at RM451.7 billion.

Production

Based on the Monthly Manufacturing Survey conducted by the Department of Statistics, in 2006, output of export-oriented industries expanded by 7.5 per cent, while domestic-oriented industries grew by 7.2 per cent.

Manufacturing Sector Performance, 2006

Indicator	2006	2005
Share of Real GDP (%)	31.1	30.8
Production Index (2000=100)	139.0	129.3
Value Added Growth (%)	7.1	5.3
Total Sales (RM billion)	510.7	459.7
Investments Approved (RM billion)	46.0	31.0
Productivity Growth (%)		
(Sales Value per Employee)	3.5	14.1
Share of Total Exports (%)	76.7	77.4
Share of Total Employment (%)	29.0	28.7

Sources: Department of Statistics, Malaysia,
Economic Planning Unit, Malaysia (EPU)
Malaysian Industrial Development Authority (MIDA)
National Productivity Corporation (NPC)
Malaysia External Trade Development Corporation
(MATRADE)

Professional and scientific equipment and electrical and electronics (E&E) industries were the main contributors to the expansion of the export-oriented industries. Fabricated metal products, iron and steel, processed food and beverages and non-metallic mineral products were the main contributors to the growth of the domestic-oriented industries.

Sales

Based on the same survey, sales value of the manufacturing sector increased by 11.1 per cent to RM510.7 billion in 2006, from RM459.7 billion in 2005. For the export-oriented industries, sales value increased by 12.7 per cent to RM418.3 billion (accounting for 82 per cent of total sales), from RM371.3 billion in 2005. Sales value of the domestic-oriented industries increased by 4.7 per cent to RM80.1 billion (accounting for 16 per cent of total sales), from RM76.5 billion in 2005.

Within the export-oriented industries, the E&E industry recorded the highest sales of RM208.9 billion, followed by chemicals, at RM144.3 billion. Together, these two industries accounted for 69.2 per cent of total sales. Domestic-oriented industries which recorded high sales were the transport equipment industry, at RM20.5 billion, followed by iron and steel (RM18.6 billion), and processed food and beverages (RM15 billion).

Employment

Based on the Monthly Manufacturing Survey, in 2006, employment in the manufacturing sector grew by 8.6 per cent to 1,084,571 workers, from 998,553 workers in 2005. Export-oriented industries accounted for 76.6 per cent of the total employment in the manufacturing sector, with the E&E industry recording the largest employment of 384,942 workers, followed by wood and wood products (138,154 workers), and chemicals industries (129,418 workers). Domestic-oriented industries accounted for 18.9 per cent of total employment, with the transport equipment industry employing 52,795 workers, followed by fabricated metal products (46,276 workers) and non-metallic mineral products (41,423 workers).

Productivity

Productivity of the manufacturing sector, as measured by Sales Value per Employee, increased by 3.5 per cent to RM479,410 in 2006, as compared with RM463,130 in 2005. The main contributions were from the chemicals (RM1,127,300), iron and steel (RM1,032,030), E&E (RM561,530), machinery and equipment (RM455,030) and transport and equipment industries (RM380,600).

Production Indices of Selected Manufacturing Industries

Industry Group	2006	Change (%)	2005
Overall Manufacturing	139.0	7.5	129.3
Export-oriented industries	140.9	7.5	131.0
Chemicals	157.1	7.7	145.9
Palm oil	147.0	5.6	139.2
Rubber products	143.4	7.2	133.8
Electrical and electronics	140.9	9.0	129.3
Wood products	121.0	7.2	112.8
Professional and scientific equipment	119.4	1.3	107.4
Machinery and equipment	104.6	-13.7	121.2
Rubber remilling and latex processing	103.0	4.3	98.7
Textiles and apparel	189.8	7.5	83.5
Domestic-oriented industries	131.1	7.2	122.2
Fabricated metal products	156.4	26.6	123.6
Transport equipment	147.9	-1.5	150.2
Processed food and beverages	133.0	5.7	125.9
Non-metallic mineral products	117.0	3.3	113.2
Iron and steel	109.6	6.4	103.0
Non-ferrous metal	108.5	0.3	108.1

Source: Department of Statistics, Malaysia
Note: Base Year 2000 = 100

Investments

In 2006, total investments approved increased by 48.1 per cent to RM46 billion, from RM31.1 billion in 2005. A total of 1,077 projects were approved in 2006, compared with 1,027 projects in 2005. Of the total number of projects approved, 653 (60.6 per cent) were new projects, with investments of RM29.4 billion, while 424 projects were for expansion/diversification (RM16.6 billion). Investments in projects approved in 2006 were concentrated in three industries, namely, petroleum products (RM11.4 billion), E&E products (RM10 billion) and chemicals and chemical products (RM9.1 billion).

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..... Continue Performance of the Manufacturing Sector

Exports

In 2006, exports of manufactured goods increased by 9.3 per cent to RM451.7 billion, from RM413.1 billion in 2005. E&E products, which accounted for 47.7 per cent or RM281 billion of Malaysia's total exports, remained as the largest export earner. In 2006, exports of E&E products increased by 6.2 per cent (RM16.3 billion).

Chemicals and chemical products, the second largest export revenue earner, contributed 4.9 per cent or RM29.1 billion to total exports, followed by machinery and equipment (RM19.8 billion), wood products (RM16.7 billion) and metal products (RM14.2 billion).

Imports

Imports of manufactured goods expanded by 9.3 per cent to RM402 billion in 2006, from RM367.7 billion in 2005. E&E products accounted for 43.2 per cent or RM207.6 billion of total imports. In 2006, imports of E&E products increased by 7.4 per cent (RM14.4 billion).

Machinery and equipment contributed 7.8 per cent or RM37.4 billion to total imports, followed by chemicals and chemical products (RM35.1 billion), metal products (RM24.3 billion) and transport equipment (RM20.5 billion).

Export Performance of Manufactured Goods

Product Group	2006		Change (%)	2005	
	RM billion	Share (%)		RM billion	Share (%)
Total Exports	589.0	100.0	10.3	533.8	100.0
Exports of Manufactured Goods	451.7	76.7	9.3	413.1	77.4
Electrical and electronics products	281.0	47.7	6.2	264.7	49.6
Chemicals and chemical products	29.1	4.9	10.6	26.3	4.9
Machinery and equipment	19.8	3.4	9.5	18.1	3.4
Wood products	16.7	2.8	14.0	14.6	2.7
Metal products	14.2	2.4	30.5	10.8	2.0
Optical and scientific equipment	13.6	2.3	10.1	12.3	2.3
Textiles and apparel	10.6	1.8	3.0	10.3	1.9
Iron and steel products	9.4	1.6	3.6	7.0	1.3
Rubber products	9.3	1.6	3.6	7.0	1.3
Transport equipment	8.7	1.5	24.2	7.0	1.3
Plastic products	7.9	1.3	17.3	6.7	1.3
Processed food	7.3	1.2	1.1	6.5	1.2
Jewellery	3.9	0.7	7.2	3.6	0.7
Non-metallic mineral products	3.5	0.6	19.1	2.9	0.5
Petroleum products	2.5	0.4	12.3	2.2	0.4
Paper and pulp products	2.2	0.4	4.6	2.1	0.4
Beverages and tobacco	1.9	0.3	3.0	1.7	0.3
Other manufactures	10.4	1.8	13.1	9.2	1.7

Compiled by Ministry of International Trade and Industry.

Electrical and Electronics Industry

Driven by the expansion of the semiconductor industry worldwide, the E&E industry continued to be the main contributor to growth of the manufacturing sector in Malaysia.

Production

In 2006, the production index for the E&E industry increased by 9 per cent to 140.9, compared with 129.3 in 2005. This was due to the growth in the global semiconductor market, driven by increased demand for computers and consumer electronics, such as cellular phones, media players (MP3) and digital cameras.

The production index of computers and computer peripherals increased by 15 per cent to 154.5 in 2006, compared with 134.4 in 2005, while the index for semiconductors and other electronic components recorded an increase of 11.9 per cent. Wires and cables increased by 8.6 per cent, while audio and audio visual products declined by 10.2 per cent.

Production Index for Selected E&E Products

Products	2006	Change (%)	2005
Semiconductor devices	185.3	11.9	165.7
Computers and computer peripherals	154.5	15.0	134.4
Electronic valves and tubes and printed circuit boards	130.5	13.4	115.0
Wire and cables	117.8	8.6	108.5
Audio and audio visual products	70.6	-10.2	78.5

Source: Department of Statistics, Malaysia

Note: Base Year 2000 = 100

Sales

In 2006, total E&E sales increased by 9.5 per cent to RM209 billion, compared with RM190.8 billion in 2005, representing 40.9 per cent of total sales of the manufacturing sector. The increase in sales was partly due to the fall in prices of computers and computer peripherals. The shift towards the usage of notebook computers also contributed to the increase. In 2006, sales of computers and computer peripherals increased by 28.8 per cent to RM67.6 billion, compared with RM52.5 billion in 2005.

Sales of semiconductor and other electronic devices decreased by 1 per cent to RM42.6 billion in 2006, compared with RM43.1 billion in 2005. Wire and cable sales increased by 40.7 per cent to RM7.7 billion in 2006, compared with RM5.5 billion in 2005.

Sales of Selected E&E Products

Products	2006		2005
	(RM billion)	Change (%)	(RM billion)
Computers and computer peripherals	67.6	28.8	52.5
Semiconductor and other electronic devices	42.6	-1.0	43.1
Electronic valves and tubes, printed circuit boards and other electronic components	35.0	-12.2	39.9
Audio and audio visual products	22.1	-20.0	27.6
Wires and cables	7.7	40.7	5.5

Source: Department of Statistics, Malaysia.

Employment

In 2006, employment in the E&E industry grew by 14.9 per cent to 384,942 workers, compared with 335,132 workers in 2005. The E&E industry remained the largest employer, contributing 35.5 per cent of the total manufacturing employment in 2006.

Employment in the semiconductor and other electronic components sub-sector increased by 13 per cent to 90,025 workers, compared with 79,666 workers in 2005. It represented 23.4 per cent of total E&E employment.

In 2006, employment in the computers and computer peripherals segment increased by 38.2 per cent to 64,730 workers, from 46,851 workers in 2005. This was due to the strong demand for notebook and personal digital assistant (PDA) type products.

In line with the reduction in the production of audio and audio visual products, employment in this sub-sector registered a decline of 11.1 per cent to 52,689 workers, compared with 59,261 workers in 2005.



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Productivity

Productivity level, as measured by Sales Value per Employee, of the E&E industry decreased by 2.4 per cent to RM561,530 in 2006, compared with RM575,230 in 2005. All the E&E sub-sectors registered decline in productivity except wires and cables sub-sector, which grew at 16.9 per cent. The lower growth of Sales Value per Employee was due to the expansion in employment to meet the increase in global demand for E&E products.

Labour Cost per Employee of the E&E industry grew by 0.5 per cent, while Unit Labour Cost increased by 2.8 per cent. Labour cost competitiveness of the wires and cables sub-sector was sustained as Labour Cost per Employee and Unit Labour Cost decreased by 14.7 per cent and 27.1 per cent, respectively.

The favourable performance of wires and cables was attributed to the application of advanced machineries, such as terminal crimping machine, stripping machine and tin pot to produce higher value wire and cable products. Computers and computer peripherals was also able to sustain its labour cost competitiveness as Labour Cost per Employee and Unit Labour Cost reduced by 4.4 per cent and 2.1 per cent, respectively.

Productivity Indicators of Selected E&E Segments

Sub-sector/Segment	Sales Value per Employee (RM'000)			Labour Cost per Employee (RM'000)			Unit Labour Cost (Number)		
	2006	Change (%)	2005	2006	Change (%)	2005	2006	Change (%)	2005
E&E Industry	561.5	-2.4	575.2	23.0	0.5	22.9	0.0409	2.8	0.0398
Computers and computer peripherals	1,148.6	-2.6	1,178.6	21.6	-4.4	22.6	0.0188	-2.1	0.0192
Wires and cables	532.5	16.9	455.3	17.9	-14.7	21.0	0.0337	-27.1	0.0462
Semiconductor devices	487.6	-11.2	550.1	29.4	3.3	28.4	0.0602	16.4	0.0517
Audio and audio visual products	411.5	-11.4	463.2	23.9	-1.2	24.2	0.0581	11.3	0.0522
Electronic valves and tubes, printed circuit boards, and other electronic components	379.2	-11.4	427.8	20.3	-0.2	20.3	0.0534	12.6	0.0475

Compiled by National Productivity Corporation based on Survey by Department of Statistics, Malaysia.

Investments

A total of 170 E&E projects, with investments of RM10 billion were approved in 2006, comprising 59 new projects and 111 expansion/diversification projects. The number of projects declined by 25.1 per cent, compared with 227 projects approved in 2005, valued at RM13.8 billion.

Foreign investments remained an important source totalling RM8.6 billion or 85.8 per cent of total investments in the E&E industry, while domestic investments totalled RM1.4 billion or 14.2 per cent.

The electronic components and industrial electronics sub-sectors contributed 90.2 per cent to total investments in the E&E industry. A total of 106 projects were approved in 2006, compared with 103 projects in 2005.

Exports

In 2006, E&E exports recorded an increased of 6.2 per cent to RM281 billion, compared with RM264.7 billion in 2005. Office machines and automatic data processing machines and parts recorded an increase of 18.2 per cent to RM102.6 billion, compared with RM86.8 billion in 2005. Telecommunications and sound recording equipment also increased by 3.8 per cent to RM52.7 billion, compared with RM50.8 billion in 2005.

However, exports of electrical machinery, apparatus, appliances and parts recorded a decrease of 1.1 per cent to RM125.7 billion, compared with RM127.2 billion in 2005. The decrease was due to reduction in

exports of electrical apparatus for electrical circuits and printed circuits, which declined by 30.7 per cent to RM15.7 billion, compared with RM22.7 billion in 2005.

Major E&E exports were semiconductor devices, integrated circuits, micro assemblies, transistors and valves segment, accounting for 33.3 per cent of total E&E exports, valued at RM93.5 billion, followed by automatic data processing machines with export value of RM59.8 billion (21.3 per cent).

In terms of market, the USA remained the largest export market for E&E products in 2006. Exports to the USA contributed 30.6 per cent of total E&E export, valued at RM85.9 billion. This was an increase of 4.8 per cent, compared with RM82 billion in 2005. Other major export destinations were Singapore and the People's Republic of China. In 2006, exports to Singapore increased by 2.4 per cent to RM44.9 billion, compared with RM43.9 billion in 2005, while exports to the People's Republic of China increased by 25.4 per cent to RM19.2 billion, compared with RM15.3 billion in 2005. E&E exports to ASEAN and the EU increased to RM60.8 billion and RM44.6 billion, compared with RM59.6 billion and RM37.3 billion in 2005, respectively.

Exports of Selected E&E Products

Description	2006			2005	
	RM billion	Share (%)	Change (%)	RM billion	Share (%)
Total Exports of E&E Products	281.0	100.0	6.2	264.7	100.0
Electrical machinery, apparatus and appliances and parts	125.7	44.7	-1.1	127.2	48.0
Semiconductors devices, ICs, micro assemblies, transistors, valves	93.5	33.3	3.9	90.0	34.0
Electrical apparatus for electrical circuits and printed circuits	15.7	5.6	-30.7	22.7	8.6
Electrical machinery and apparatus	8.4	3.0	10.9	7.6	2.9
Electrical and non-electrical household equipment	3.2	1.1	12.0	2.8	1.1
Equipment for distributing electricity	2.7	1.0	26.8	2.1	0.8
Electrical power machinery and parts	1.9	0.7	10.8	1.7	0.6
Electro-diagnostic apparatus, medical and radiological apparatus	0.3	0.1	32.3	0.2	0.1
Office machines and automatic data processing machines and parts	102.6	36.5	18.2	86.8	32.8
Automatic data processing machines	59.82	1.3	10.9	53.9	20.4
Parts for office machines and automatic data processing machines	41.9	14.9	29.5	32.3	12.2
Office machines	0.9	0.3	74.4	0.5	0.2
Telecommunications and sound equipment	52.7	18.8	3.8	50.8	19.2
Telecommunications equipment and parts	33.6	12.0	19.6	28.1	10.6
Sound recorders	7.7	2.7	-8.0	8.3	3.1
Radio broadcast receivers	6.7	2.4	-7.5	7.3	2.7
Television receivers	4.7	1.7	-33.2	7.1	2.7

Compiled by Ministry of International Trade and Industry.

Imports

Imports of E&E products increased by 7.4 per cent to RM207.6 billion, compared with RM193.2 billion in 2005, due to increase in imports of components for finished products. The People's Republic of China replaced the USA as the main source of imports, valued at RM35.5 billion, while imports from the USA amounted to RM34.1 billion.

Imports of electrical machinery, apparatus and appliances increased by 9.4 per cent to RM153.5 billion, compared with RM140.3 billion in 2005. This sub-sector accounted for 73.9 per cent of total E&E imports. Imports of office machines and automatic data processing machines and parts also recorded an increase of 2.1 per cent to RM37.4 billion, compared with RM36.6 billion in 2005.



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..... Continue Performance of the Manufacturing Sector

Imports of Selected E&E Products

Description	2006			2005	
	RM billion	Share (%)	Change (%)	RM billion	Share (%)
Total Imports of E&E Products	207.6	100.0	7.4	193.2	100.0
Electrical machinery, apparatus and appliances and parts	153.5	73.9	9.4	140.3	72.6
Semiconductors devices, ICs, Micro assemblies, transistors, valves	114.7	55.3	8.5	105.7	54.7
Electrical apparatus for electrical circuits and printed circuits	17.7	8.5	9.6	16.1	8.4
Electrical machinery and apparatus	13.7	6.6	13.4	12.0	6.2
Electrical power machinery and parts	3.6	1.7	15.3	3.1	1.6
Equipment for distributing electricity	2.2	1.1	27.7	1.8	0.9
Electrical and non-electrical household equipment	1.2	0.6	9.2	1.1	0.5
Electro-diagnostic apparatus, medical and radiological apparatus	0.4	0.2	-16.3	0.4	0.2
Office machines and automatic data processing machines and parts	37.4	18.0	2.1	36.6	19.0
Parts for office machines and automatic data processing machines	26.6	12.8	5.0	25.3	13.1
Automatic data processing machines	10.5	5.0	-4.8	11.0	5.7
Office machines	0.3	0.2	16.7	0.3	0.2
Telecommunications and sound equipment	16.7	8.0	2.7	16.3	8.4
Telecommunications equipment and parts	14.5	7.0	2.0	14.3	7.4
Sound recorders	1.3	0.6	-8.0	1.4	0.7
Television receivers	0.6	0.3	72.1	0.3	0.2
Radio broadcast receivers	0.3	0.1	7.2	0.3	0.1

Compiled by Ministry of International Trade and Industry.

Developments

The introduction of green ruling, such as the Waste Electrical and Electronic Equipment (WEEE) and the Restrictions on Hazardous Substances (RoHS), by the EU in 2005, restricts the use of hazardous substances in electrical and electronics equipment. The Regulations are aimed at providing protection to human health and dictate environmentally sound recovery and disposal of waste from electrical and electronics equipment. The RoHS Directive came into force on 1st July 2006

The WEEE directive requires industry to collect and recycle waste on electrical and electronics equipment. The RoHS requires Member States to ensure that new electrical and electronics equipment in the market does not contain lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB) or polybrominated diphenyl ethers (PBDE).

The Federation of Malaysian Manufacturers (FMM) had conducted a workshop on WEEE and RoHS. The workshop was aimed at enhancing understanding among the industry players and exporters on issues involving the evolution of the electrical and electronics industry. The Workshop also focused on identifying measures and solutions affecting the electrical and electronics industry, including compliance to the WEEE and RoHS Directive.

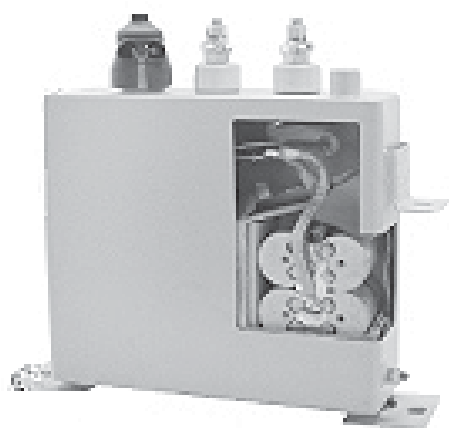
The E&E sector has been targeted as one of the sectors for further development and promotion under the Third Industrial Master Plan, 2006-2020. The semiconductor industry will be further strengthened through the realisation of a fully developed semiconductor cluster in the North-Western Corridor, covering Perak, Pulau Pinang, Kulim High Technology Park and the neighbouring industrial areas in Kedah. A Task Force has been established to formulate action plans and to implement various strategic thrusts identified for the E&E industry.

Source: Malaysia International Trade and Industry Report 2006 published by Ministry of International Trade and Industry.



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Chrysanthemum Efficacy

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Chrysanthemums which bloom in autumn, have many uses. They are used to adorn landscapes, for flower arrangement or even as an ingredient in some dishes. They are also one of the commonly used Chinese medicinal herbs. In traditional Chinese medicine, the familiar chrysanthemum tea is regarded as a health drink. A steaming cup of chrysanthemum tea after a day of hard work not only helps you unwind and relax, but also provides you with unexpected goodness.

Chrysanthemum Tea Clears Away Heat

In traditional Chinese medicine, chrysanthemum flower is considered sweet in taste and slightly cold in nature, meaning that its property is neither cold nor hot. The best chrysanthemum tea is prepared by steeping the dried flowers in boiling water with a little bit of honey or rock sugar added.

There are many varieties of chrysanthemums. The ones generally used for making chrysanthemum tea are white, yellow and wild flowers or those imported from Hangzhou, China. Although different varieties have different medicinal effects, chrysanthemum tea is generally good for eliminating heat, detoxifying, removing heat from the liver, reducing blood pressure level with antipyretic, antibacterial and anti-inflammatory effects.

Traditional Chinese physicians believe that people with normal constitution can take chrysanthemum tea regularly for the maintenance of general well-being. However, due to its slightly cold property, chrysanthemum tea is not suitable for those with low blood pressure, cold constitution or gastrointestinal system of the cold type. People who tend to experience bloating or diarrhea are not advisable to take the tea too often.

There is no particular restriction as to the time to take chrysanthemum tea or the dosage. Traditional Chinese physicians believe that the tea can be taken any time and as often as you like as long as your body approves it. You can even drink it in place of water, especially when having fever, colds and excessive internal heat. For improving high blood pressure, constipation, skin problems or promoting weight loss, chrysanthemum tea is a natural drink full of goodness.

The main function of chrysanthemum tea is to remove heat. It has antipyretic, anti-inflammatory and antibacterial properties.

Combination with other commonly used Chinese medicinal herbs enhances its efficacy for treating colds and hoarse voice.

The medicinal herbs normally used in combinations with chrysanthemums are those for the maintenance of general well-being with similar nature and mild medicinal effects, therefore the amount can be adjusted according to individual preferences and needs. No specific rules to be observed in this case. The following are the synergistic uses of chrysanthemum and other medicinal herbs to optimise the benefits.

For improving eyesight and lowering blood pressure level

Wolfberry and chrysanthemum tea: Steep wolfberries and chrysanthemums in boiling water. Since wolfberries are naturally sweet, no additional sugar is necessary. Another alternative is to decoct mulberry leaves, wolfberries and chrysanthemums. Suitable for those with failing eyesight and dry eyes.

Cassia seed and chrysanthemum tea: Steep cassia seeds and chrysanthemums in boiling water. This refreshing tea helps improve eyesight and lower high blood pressure.

Pipewort and chrysanthemum tea: Decoct pipewort and chrysanthemums, add an appropriate amount of rock sugar. Red dates can also be added. For treatment of night blindness and dry eyes.

For common cold and hoarse voice

Fructus Momordicae and chrysanthemum tea: Decoct momordicae and chrysanthemums in water. Good for hoarse voice.

Sterculia seed and chrysanthemum tea: Steep sterculia seeds and chrysanthemums in boiling water. Good for hoarse voice.

Throat-clearing tea: Honeysuckle flowers 15 g, chrysanthemums 10 g, pilan root 20 g, ophiopogon root 10 g, platycodon root 15 g, tea leaves 6 g and licorice root 3 g. Crush all ingredients and divide into 3 portions. Wrap each portion with a piece of cheesecloth and tie it up. Steep the teabag in boiling water and add an appropriate amount of rock sugar. This tea is beneficial for preventing acute or chronic laryngitis. It has the effects of removing toxins, treating common cold and



Dried chrysanthemum used for making tea.

throat inflammation. If you find it a real hassle to prepare all of the above ingredients, you can use honeysuckle and chrysanthemum flowers only, or steep platycodon and licorice roots in chrysanthemum tea that you have prepared earlier. Both are good for treating hoarse voice.

Mulberry and chrysanthemum tea: Decoct chrysanthemums, mulberry leaves and loquat roots. Good for treating common colds, removing heat, detoxifying and relieving cough.

Chrysanthemum tea with added flavour: Decoct 3-5 pieces of cicada skin for 5-10 minutes and remove the residue. Add the decoction into chrysanthemum tea prepared earlier. For treating hoarse voice due to common cold, relieving cough and reducing phlegm.

For promoting weight loss and removing heat from the liver

Hooked uncaria stem and chrysanthemum tea I: Decoct the same weight of uncaria stems and chrysanthemums. In addition to clearing away heat, reducing inflammation, removing heat from the liver and lowering blood pressure level, it can also be used to treat the aftereffects of stroke such as twisted mouth, paralysis, numbness of the limbs and slurred speech. Mulberry leaves may be added in the decoction.

Hooked uncaria stem and chrysanthemum tea II: Decoct uncaria stems, chrysanthemums and prunella spike. This tea has the effects of clearing away heat, reducing inflammation, fighting bacteria, removing heat from the liver and lowering blood pressure level.

Hawthorn, honeysuckle and chrysanthemum tea: Decoct equal weight of hawthorn fruits, honeysuckle and chrysanthemums. Effective for promoting weight loss and reducing blood

..... Continue Chrysanthemum Efficacy

lipid level. Suitable for those who are overweight, people with high blood lipid and high blood pressure.

Cassia seed and chrysanthemum tea: Steep chrysanthemums, cassia seeds and hawthorn fruits in boiling water. Effective for reducing blood pressure level.

How to Choose Chrysanthemums

When purchasing chrysanthemums, choose big ones with natural color and intact petals. Those with broken petals will leave too many residues, while those with unnatural color are of bad quality. Place chrysanthemum flowers in an airtight container to keep them dry.

If you grow chrysanthemums in your garden, try making your own tea. Pick good flowers, dry them, and place them into small bags used for tea bags and tie them up. Steep the bags in boiling water and you can enjoy your own home-made chrysanthemum tea. Licorice root may be added to enhance the favour. Use one piece for every cup of tea.

Different Varieties of Chrysanthemums and Their Medicinal Effects

White chrysanthemums: The most common of all varieties, the flowers are relatively bigger and white in color. They have the



Combined with other herbs, chrysanthemum can be made into various teas to offer different efficacies.

effects of improving eyesight, lowering blood pressure level and removing heat form the liver.

Yellow chrysanthemums: Slightly yellow in color, they are generally used for the treatment of common cold, fever, dizziness, headache, etc.

Wild chrysanthemums: The flowers are relatively smaller than the other varieties. Having anti-inflammatory property, they are

commonly used for external application and good for skin diseases.

Hangzhou chrysanthemums: As the name implies, these flowers are imported from Hangzhou, China. The flowers have broken petals and do not look nice. Traditional Chinese physicians believe that these flowers smell of mildew and that the quality is not that good compared to other varieties. The medicinal effects are similar to those of white chrysanthemums.



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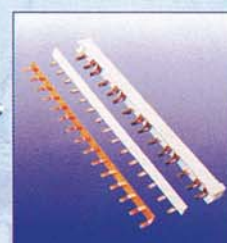
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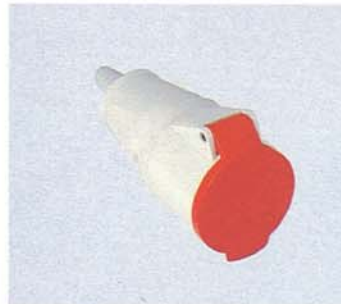
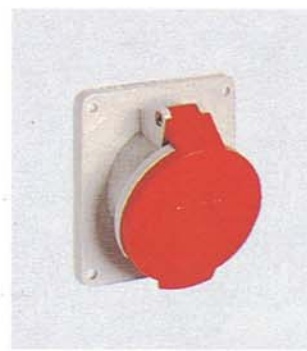


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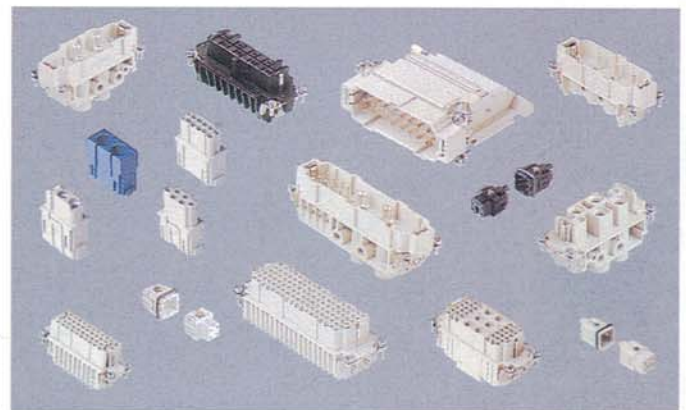




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