



# NETS

'moving intensive care for kids'

In order for NETS to obtain and periodically replace vital medical equipment and vehicles used in the emergency transport of sick babies and children NETS requires around \$650,000 per year. Through partial or full support of any of the wish list items you can help NETS provide kids in your community, and throughout NSW and the ACT, with the state-of-the-art emergency intensive care services they need.

For more information or to make a donation please contact NETS on 1800 10 NETS (6387) or (02) 9633 8700

## 2018 October Equipment Wish List for NETS

EQUIPMENT TYPE/PRIORITY	BENEFITS/ NEEDS	COST \$ excl. gst	QTY
<p>NETS OPERATIONAL MANAGEMENT SYSTEM - PRIORITY 1</p> 	<p><i>Operational Management System</i></p> <p>The NETS clinical &amp; operational electronic database is the heart of the clinical coordination centre and a crucial component in the delivery of NETS services. NETS uses a 35 year-old DOS-based database which needs replacing with a more sophisticated system with capacity to link to hospital Electronic Medical Record (EMR) systems at sending (eg FirstNet, eMaternity, etc) and receiving hospitals (eg Powerchart). This would avoid information about patients being verbally handed from referring hospital to NETS and from NETS to receiving hospitals as at present. The proposed new electronic medical and operational system would:</p> <ul style="list-style-type: none"> <li>• Improve efficiency of tasking, communication &amp; transport; for improved patient outcomes.</li> <li>• Reduce duplication of information entry by referring hospital, NETS, Retrieval team and Receiving hospital resulting in less error and greater efficiency</li> <li>• Accept information entered by referring staff manually via an electronic form</li> <li>• Accept 'pushed' information from referring hospital systems such as Powerchart and ERIC</li> <li>• 'Push' patient-specific information to referral hospital clinicians such as Powerchart and ERIC</li> <li>• Streamline team tasking by avoiding delays awaiting paper documents to be completed pre-deployment</li> <li>• Replace existing paper forms documenting operational and clinical information with electronic forms</li> <li>• Be more user-friendly</li> <li>• Integrate decision-support algorithms for both NETS teams and referring clinicians – making the existing NETS Calculator and Song Sheets redundant.</li> <li>• Support critical decision-making by providing detailed information about capabilities and personnel at every hospital as well as comprehensive clinical information</li> </ul>	<p>Project development phase commenced</p>	<p>1</p>



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	<ul style="list-style-type: none"> <li>• Enable teams to enter and access patient and operational information in transit (ground and air)</li> <li>• Comply with Health and SCHN records strategies which aim to ensure a single patient view of records in a reliable and accessible electronic medical record throughout the patient journey.</li> <li>• Provide appropriate safeguards to ensure security against unauthorised use, disclosure, loss or other misuse</li> <li>• Provide an auditable tracking system of data entry, modification and view</li> <li>• Include data types such as photo images and video in accordance with Health policies</li> <li>• Improve reporting of data to hospitals using NETS; either referring or referral and their associated LHDs and Networks as agreed in any service level agreements which may be reached</li> <li>• Document operational activity to provide data to raise charges</li> <li>• Document service activity to provide data for Activity-based Funding; including time in consultation by NETS and referral clinicians</li> <li>• Full-scale support around the clock, change management processes and version updates</li> </ul>		
ULTRASOUND - PRIORITY 2	<p><i>Terason Tablet Ultrasound</i></p> <p>Critically ill infants and children often have complex needs for life support and access to ultrasound assessment will allow NETS doctors to correctly identify and treat cardiorespiratory problems in our small patients. Ultrasound allows screening for congenital heart disease in retrieval and appropriate referral to perinatal or cardiology services.</p>	\$50,000	1

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	<p>Ultrasound assessment is also invaluable, and can be life-saving, in helping NETS to drain fluid from around the lungs, identifying excess fluid around the heart or in the abdomen and safe placement of larger intravenous lines.</p> <p>Feb 2018 – updated quote attached</p>		

DRAFT



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NETS' SPECIALIST AMBULANCE - PRIORITY 3

NETS uses specialist ambulances to travel to hospitals to bring intensive care staff and equipment to the bedside of sick or injured babies and children. They are then transported to a specialist teaching hospital for continuing care. The ambulances have capacity, facilities and functionality not available in the fleet of the NSW Ambulance Service (NSWA). NSW confirms that it cannot meet the specifications NETS has specified, welcoming the development of this specialist fleet which performs a function NSW cannot provide. Ambulances travel from the Sydney base to hospitals in metropolitan Sydney and others to over 400km away (sometimes much more when air transport is not possible). Ambulances are based in regional centres to support satellite NETS operations from The Canberra Hospital and John Hunter Children's Hospital covering the ACT and Hunter respectively. Ambulances are also based in Wagga Wagga and Nowra covering the Riverina and Illawarra/South Coast respectively. Regional ambulances support Sydney-based teams travelling between airports or helipads and hospitals.

The Mercedes Benz 315 long-wheel-base Sprinter is a longer vehicle than a traditional ambulance. It can accommodate two of the NETS life support systems; one loading from the rear like a regular ambulance and the other side-loading. Difficult manual handling challenges are solved in this design; permitting a 167kg neonatal life support system and its 110kg trolley to be loaded by one person into the ambulance. This key feature of the ambulance addresses occupational health and safety problems with stretcher-based loading and is compliant with the 20G crashworthiness standard of the Australian Design Rules.

Life support equipment for a baby or infant and an older child can be carried simultaneously; permitting a NETS' team to be diverted from one mission to another without returning to Base for a change of equipment. It also allows the transport of two patients simultaneously (e.g. twins).

NETS' ambulances carry medical air and are approved for delivery of iNO; neither of which is possible in a 'normal' emergency ambulance.

\$160,000



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The extra space and additional seating permit additional staff (e.g. for training or particularly complex cases requiring extra skills), larger supplies of medical oxygen and medical air and a guarantee that a parent can travel with their child; if desired. In a regular ambulance only a two person team (Dr + RN) can be accommodated without the ability to include training staff or a parent.

In-ambulance Vision-for-Life provides support to teams dealing with a problem with the patient in transit. This is especially relevant considering the long duration of many missions (cost covered by Variety outside of this price).

Leasing options are more costly because of the high fit-out price compared to the base vehicle cost and the need to spread fitout costs over many years.

After initial purchase (\$70,000) and fit-out (\$90,000), ambulance usage is charged according to the IPART<sup>1</sup>, delivering a net profit of \$25,000/vehicle/year which builds up well before the expected 8 year life of an ambulance to an amount that replaces the vehicle and re-fits it at year 6. That is, without considering the resale value (\$25,000) of an ambulance and the transfer of usable items (\$9,000 to \$30,000 depending on type).

Therefore the long term replacement of these assets is fully funded without reliance on donations. Owing to the constraints of government accountancy practices which treat each year separate to the last, these funds cannot be rolled over but are instead returned to SCHN corporate funds. We would propose that a mechanism be developed for returning these funds to NETS or held in appropriate tagged suspense account and re-allocated to NETS in subsequent financial year to enable NETS to maintain this service.

<sup>1</sup> IPART = Independent Pricing And Regulatory Tribunal. NSW Government.

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2018 series PAEDIATRIC LIFE SUPPORT SYSTEM - 4



*Paediatric Life Support System – incorporating previously separate Stretcher and Bridge – NETS and Total Aerospace Solutions*

A NETS-designed system for intensive care support integrated with an extensively modified stretcher providing power and gas supplies for uninterrupted operation and provision of humidified high flow oxygen therapy. First of type has been completed and is being introduced into service soon. This new design will replace previously separate Bridge and Stretcher combinations progressively over the next 12 months.

\$253,000 3

ECMO TRANSPORT MODULE - PRIORITY 5

NETS is being asked to move patients on ECMO more regularly. In the future it may be that NETS is part of a team for remote initiation of ECMO prior to transport.

In either case, we have used equipment from CHW and propose that an additional set of equipment (pump, heater, controller, gas exchanger) be purchased for this purpose but held as part of CHW Perfusion Service pool. Additional costs are involved to integrate this equipment into the transport environment; particularly to meet the safety requirements for aviation. The head of Perfusion Services has suggested this be a joint activity with NETS. This proposal is conceptual at this stage; with detailed prices to follow.

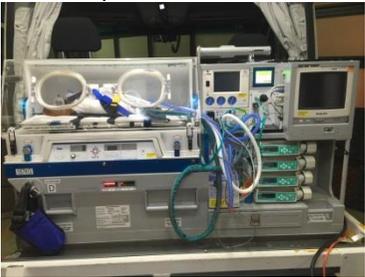
\$30,000 engineering in addition to:

- Pump
- Exchanger
- Controller
- Heater

1

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	<p>To date, these missions have been accomplished using one-off approval for an improvised solution. There is a risk that any future transport request may not be approved without this work being done.</p>	
<p>NEONATAL ELECTRIC TROLLEY - PRIORITY 6</p> 	<p><i>Neonatal Life Support System - Electric Trolley</i></p> <p>Height adjustable trolley used to move neonatal life support system outside of a vehicle; including within the sending and receiving hospitals. Self-loads with its neonatal system in place on it into a NETS ambulance from the on side using a one-person technique.</p>	<p>\$12,278 6</p>
<p>NEONATAL LIFE SUPPORT SYSTEM – NEW MODEL TO REPLACE THE 2012 SERIES -7</p> 	<p><i>New model NETS Life Support System – ‘2018’ series (Total Aerospace Solutions)</i></p> <p>Includes incubator (as above)          Upgrade physiological monitoring, infusion pumps (see below), better mechanical ventilator (as per coronial recommendation)          Heated humidification          Autonomous operation with Power and Medical Gas management system          iNO treatment system          Top-lift self-loading for aircraft and helicopter, electric trolley (see below) for NETS’ ambulances          Crashworthy in road and air ambulance transport (21G rated)</p>	<p>\$300,000 5</p>