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White Paper

Repurposing

A Strategy for Reaching Untapped Revenues

By

The Gendreau Group
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The Gendreau Group asks its clients:

Do you have ***existing high-tech products*** *that may have applicability in other markets?*

Do you have ***undeveloped technologies*** *sitting dormant on the shelf?*

TGG believes if firms answer 'yes' to either of these, they are ***leaving money on the table.***

This white paper examines:

- *What 'repurposing' is.*
- *Why firms should use it.*
- *How to do it right.*

Companies Are Leaving Money on the Table

High Tech Firms Should Consider 'Repurposing' Existing Technologies, Products or Services as a Strategy for Maximizing Revenues and Returns

A simple Google search on the word "repurposing" shows that the term is most frequently applied to the reuse of print and electronic media or documents. Underscoring this association with media, *The American Heritage® Dictionary of the English Language, Fourth Edition* defines the verb as: "Repurpose: To use or convert for use in another format or product: *repurposed the book as a compact disk."*

Having long ago understood the economic value of repurposing content, media and publishing companies have made repurposing an integral part of their business strategies. Outside of media and publishing, however, repurposing is generally not viewed as strategic and, if undertaken at all, is done largely opportunistically. The Gendreau Group (TGG), a California-based niche consultancy that specializes in developing revenue strategies, would like to change this.

As defined by The Gendreau Group, repurposing is the process of using an existing technology, product or service to solve new problems, most often for users or buyers from different markets or industry verticals.

TGG encourages many of its clients – and especially those who develop high-tech technologies and products – to make the investigation of repurposing opportunities a regular part of their business planning and product management activities. TGG believes that virtually *all* high-tech offerings – hardware, software or technology-based services – have the potential to solve more than one kind of problem for more than one type of customer.

"Consider all the uses we make today of the computer chip, for example," says founding principal, Timothy Gendreau. "Or better, think about the sophisticated technologies that have been developed for healthcare that have been shown to have applicability in other arenas like manufacturing or security – x-ray, ultrasound and MRI, to name just a few. And then there are all the wireless technologies that have emerged over the last 20 years – mobile, Wi-Fi, RFID, Bluetooth, Zigbee, WiMAX, and on and on. It's virtually impossible to think of one single technology that actually has only one practical application."

However, as partner and market research expert, Susan Wayo, points out, "It is also true that most developers are too close to their technologies to see the full potential of what they have created. And besides, it is almost always impossible to identify up front all the uses a given technology may have over time. And even if people could recognize all the possibilities, companies cannot afford to 'boil the ocean' and try to do everything all at once. So firms must limit their application choices – especially during the early stages of development or in periods of rapid growth – so that they can actually get products and services to market in a timely fashion."

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But because firms have to make these kinds of choices, the TGG team says it is logical to deduce that, from the time a technology is first proven to have useful and practical application until the time it is perceived to be obsolete, there will always exist some level of untapped market potential that the firm should periodically examine if it wants to maximize the revenues and ROI from that technology.

Unlocking Market Potential: Purposing versus Repurposing

A technology has been "purposed" once someone can demonstrate that it will economically solve problems that someone somewhere in the world would be willing to pay a reasonable amount of money to own and use. Technologies that cannot do this are best left on the shelves of the R&D departments that produced them. Interestingly, as author Henry Chesbrough has shown, it is not unusual for commercially viable technologies to end up on the shelf as well.

In his books on 'Open Innovation', Chesbrough reveals how a technology with tremendous market potential can end up languishing on the shelf of the R&D department if it does not meet that firm's criteria for commercialization. But in the hands of another firm, one with a different perspective or set of business expectations, this same technology can take on new life, often when used for a different purpose than its designers had originally anticipated. Chesbrough's books provide numerous examples to help the reader understand how new perspective can unlock the potential of underdeveloped technologies.

'Repurposing' is similar to 'purposing', but takes this perspective to the logical next level. TGG recommends that clients view repurposing with a different set of expectations in mind. Purposing should be viewed as a way for firms to unlock the revenue potential of a technology, while repurposing should be viewed as one of several strategies a company can consider using in order to maximize revenues and profits over the life of that technology.

Repurposing Examples – Original Technology and Repurposed Solutions:

Original Purpose of Technology	Repurposed Application of the Same Technology
• **Wireless local area networking (Wi-Fi) for computing**	• Wireless networking for voice applications* • Low cost replacement for high-cost wireless local loops**
• **Credit card approvals and fraud detection**	• Telecommunications fraud management* • Prescription fraud management**
• **RFID-based asset tracking solution**	• Connected health solutions* • In-home remote patient monitoring**
• **Ink dispersion method for ink-jet printing**	• Specialized Fuel Injection devices** • "Printing" replacement body parts* [1]
• **Rapid training methodology for tax preparers**	• Rapid language learning system**
• **Intravenous infusion pumps used in hospitals**	• Mixing and dispensing of liquids in food manufacturing**
• **Self-service information kiosks**	• Visitor management* • Self-service credit approvals for furniture retail*
• **Specialized VPN created for homeland security uses**	• Private mobile ad hoc networking for travel convoys**

* Fully developed and monetized ** Viable but not yet deployed

[1] *CBS Sunday Morning* report broadcast March 23, 2008. Researchers at Wake Forrest University are using ink-jet printers to lay down precise layers of cells in order to build replacement body organs layer-by -layer.

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Repurposing Examples

Apunix, a provider of self-service technologies, has partnered to repurpose its technology for use in retail, casino gaming, fragrance selection, credit approvals, visitor management, restaurant and fast food ordering, and more.

Awarepoint, a San Diego company has recognized that its active RFID technologies have applicability across a wide range of industries. To ensure success the firm is pursuing repurposing partnerships.

Cardinal Health, a global manufacturer and distributor of medical and surgical supplies and technologies, has acknowledged that there may be significant untapped value in its existing technologies.

HNC Software repurposed credit card technologies in the 1990's to create fraud management solutions for telecommunications. HNC generated $35M in incremental revenues in the first year the service was operational.

Star 21 Networks (a European alternative telecommunications provider) needed a replacement for high-cost local loop technologies. The company investigated repurposing WiFi technologies for this purpose.

However, just as maximizing the value of an undeveloped technology may require the perspective and skills of a third party, so repurposing may necessitate the involvement of a channel partner who has better access and deeper insights into the needs of potential buyers and users in markets not traditionally served by the owner of the asset to be repurposed.

Using Repurposing to Maximize Profits or for Strategic Funding

Gendreau says most companies will use repurposing to maximize revenues that enhance bottom line results. However, he also recommends repurposing as a way to tap strategic funding that a firm may need for expansion and growth.

Further, Gendreau says that the most valuable repurposing activities are those that produce new revenue streams while requiring minimal incremental investment. And TGG has found that the most lucrative repurposing opportunities often lie outside of the firm's traditional markets.

However, TGG is careful to recommend that clients pursue these relationships carefully by seeking opportunities that will not force the firm to get defocused from serving core markets – unless, of course, the firm has the strategic intent to expand the scope of its business activities.

To maximize the value of repurposing opportunities done through third parties, TGG recommends clients look for opportunities to license offerings '*as is*' to partners who will be 100% responsible for tailoring, enhancing, and maintaining those offerings, as well as for doing the marketing, sales, and providing the support required to reach and serve customers.

This will ensure that the firm who owns the asset will minimize any costs related to the repurposing initiative while also avoiding the defocus problem. Most importantly, this will ensure that revenues from the repurposing initiative will drop directly to the bottom line!

Using Repurposing as Part of a Market Penetration Strategy

Industries adopt new technologies at different rates and for different purposes, so where repurposing opportunities may lie depends on how a given firm *and* its clients are positioned along the technology adoption curve. Firms that establish themselves early on in an emerging market are likely to be well positioned to pursue mid-cycle and late adopters either directly or through partners.

Similarly, firms that create technologies that have applicability across are wide range of markets are well positioned to use repurposing as a way to reach other verticals.

The chart on the next page shows how RFID technologies were being adopted by various market verticals as of 2006. A firm like TGG client Awarepoint, which established itself early on in the RFID space and today has proven active RFID offerings, is now well positioned to consider repurposing as a revenue strategy option.

In Awarepoint's case, the company provides active RFID solutions used in healthcare. Awarepoint's technologies are proven and stable, and could be used in a variety of other verticals, but the company knows that it must stay highly focused on meeting the complex needs of healthcare.

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By using repurposing opportunities as a strategy to serve other markets without requiring it to defocus its team from continuing to deliver value in healthcare, Awarepoint hopes to minimize the amount of equity investment it will need to achieve its long term strategic goals.

TGG recommends that companies begin looking for repurposing opportunities as soon as they have technologies that are proven and stable, and as long as their technologies are perceived to be sufficiently "advanced" to the members of at least one market segment. Once a technology is viewed as outmoded across applicable markets, the opportunity for repurposing has past.

Fortunately for TGG client Awarepoint, because the adoption rate of RFID-based solutions is still on the rise, the window of opportunity for repurposing will likely remain open for a long time to come.

Although RFID technologies have applicability for a wide range of uses across a diverse and growing set of markets and industries, the chart shows how adoption rates have varied. As a result of this variance, TGG believes there will be opportunities for "purposing" and "repurposing" RFID-based technologies, products and services for several years to come.

To maximize their success, TGG would recommend RFID technology and solutions providers focus their primary activities on key verticals, while looking for repurposing opportunities through partners who can repurpose their offerings for application and delivery in other verticals.

Different Markets are adopting RFID at different rates.

RFID Application	# Tags Supplied (2006 - Millions)	$ Value of Spend on Tags (Millions)
Smart Cards/Payment Keyfobs	350	770
Military	10	200
Animals	70	140
Passport Page	25	100
Other	65	87
Car Clickers	46	46
Pallet/Case	200	34
Vehicles	3	24
Books	50	17
Smart Tickets, Banknotes, Secure Docs	65	13
Retail Apparel	50	10
Conveyances/Other, Freight	10	10
People	1	10
Other Healthcare	10	5
Air Baggage	25	5
Manufacturing Parts/Tools	10	4
Drugs	15	4
Archiving (Documents/Samples)	8	3
Consumer Goods	10	3
Postal	1	0
Tires	0	0
Totals	***1024***	***1485***

RFID Market Profile (2006) Source: IDTechEx

Figure: *Illustration RFID adoption rates across market verticals – as of 2006*. Use of RFID tags was most prevalent in tracking pallets or cases of goods, and for smartcards and keyfobs. Use of RFID technologies for tracking and managing high value assets (e.g., medical equipment) or highly mobile human resources (e.g., military or medical personnel) had not yet taken off.

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Jim Hinrichs, Cardinal Health EVP and Controller, has helped TGG validate the value of repurposing as a business strategy for high tech firms.

According to Hinrichs:

"**As CFO of Cardinal Health's nearly $3 billion Clinical Technologies segment**, I was acutely aware of how much money we spend on innovation and IP* work.

My goal was to make sure that we got our maximum return from this ongoing investment. Licensing and/or royalty income, with little or no effort is pure gravy for a company like us.

While we did a good job of understanding how our technologies and IP can be used in our core market of Healthcare, we frankly had never spent any time thinking about whether or not our IP could be used outside of our industry.

I was introduced to the concept of repurposing by Timothy Gendreau. The specific example he gave me was how our IV pumps, which control the flow of fluid very precisely, might be used in a manufacturing process to control the flow of lubricant or some other fluid that needs to be precisely dispensed.

We have done, and will continue to do, work on understanding where there are opportunities to maximize our return on IP."

* IP: Intellectual Property

The Economics of Repurposing

TGG believes repurposing should be recognized as a best business practice for high tech companies with existing and proven technologies. By proactively seeking repurposing opportunities before an offering faces market challenges like commoditization or the emergence of competitive technologies and substitutes, repurposing can help a company maximize revenues, prolong growth, and delay inevitable decline.

The economic impact a firm can achieve from repurposing will, of course, vary depending on its offerings and the markets it serves. However, the following model illustrates how repurposing can impact the bottom line.

	Before	Repurposing Impact	After	% Change
Revenues	$1,000,000	$300,000	$1,300,000	30%
Operations Costs	<500,000>	< 50,000>	< 550,000>	10%
Gross Margin	50%		58%	15%
EBITDA	500,000		750,000	50%
Taxes & Depreciation	< 200,000>	<20,000>	<220,000>	10%
Income	300,000		530,000	77%
Net Margin	30%		41%	36%

As illustrated, given the assumption that repurposing would result in a 30% increase in revenues while only requiring a 10% increase in operational costs, the impacts on returns are dramatic: a 77% increase in income and a 36% increase in net margin. Though illustrative, TGG says these numbers are realistic. (Actual client numbers are not available for publication.)

Success Factors for Repurposing

Repurposing is a form of innovation. It necessitates that leaders and managers find ways to step "out of the box" and look across markets for ideas and opportunities. While this may be great fun for some, it is also likely to be painfully difficult for others. But in all cases, though repurposing can be very effective, risks include getting distracted by trying to do this work "in the margins" or getting defocused by becoming prematurely fixated on pursuing some great new idea.

Therefore, **TGG recommends six "rules" for successfully pursuing repurposing**:

1. **Get market research help.** Whenever a firm is not familiar with markets, buyers and users who *might* find their offerings attractive, there is work to be done. To avoid the defocus problem, TGG recommends firms get help from professionals who know how to research and evaluate markets. The opportunity costs of not doing the necessary research or of trying to do it in the margins, in most cases, will be higher than the costs of hiring professionals who can do this work expediently.

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SUMMARY

The **Why, Who, When and How** of Repurposing

Why repurpose?

- Reach untapped revenues
- Increased return on investment (ROI)
- Maximize market penetration and sustainability
- Find strategic investment
- Because reuse is a good thing!

Who should do it?

- Maturing firms
- Firms with large product portfolios
- Firms with multiple organizations and product lines
- Firms with technologies with applicability in other markets

When should repurposing be considered?

- Regularly – as part of your standard strategic planning or product roadmap planning process
- In tough times – leverage existing investments and create springboard for the future

How do you repurpose successfully?

- Maintain focus.
- Get market research help.
- Seek to complement, not just to compete.
- Recognize that the value of an asset varies from market to market.
- Pay attention to the marginal cost of pursing an opportunity.
- Get negotiation help.
- Build third party relationships that are collaborative, not adversarial.

2. <u>Seek to complement, not just to compete</u>. When firms start thinking about how they can make partners successful (not just themselves or their clients), they become better able to envision and find repurposing opportunities. The principals at TGG say that, over and over, they have found that once they can get a client to stop thinking about "competing" (I win, you lose) and start thinking about complementing (you win, we win), that client is more likely to be successful , especially with repurposing initiatives.

3. <u>Recognize that the value of an asset varies from market to market</u>. Managers must understand why and how the value of their technology, product, or service will vary in different markets. Just as an iPhone® will likely be of greater value to a tech-savvy 30-something living in San Francisco than it will to an 80 year old retired farmer living in rural America, so will other technologies vary in value depending on application and market.

4. <u>Examine the marginal costs of each opportunity thoughtfully</u>. Firms considering selling their products for new uses – whether directly or through third parties – should carefully examine the marginal cost of pursuing an opportunity. If a firm's goal is to take market share and dominate in established markets, then higher costs may be justified. However, TGG recommends that, whenever a company enters into a repurposing deal with a third party, the marginal costs to the firm should be very low. In fact, though there will always be some sort of cost to pursuing any new initiative, TGG thinks zero cost should be the goal!

5. <u>Get negotiation help if you do not have deep experience negotiating third party deals.</u> Given the deplorable track record and lack of productivity from most partnering relationships, managers owe it to their companies to either *get help* or *get training* because finding, attracting, and closing third party deals requires knowledge, talent, and experience that a majority of managers and sales people simply do not have.

6. **<u>Build third party relationships that are collaborative, not adversarial</u>.** Whether negotiating a deal yourself or through a consultant, broker or lawyer, successful partnerships must be collaborative, focused on the best interests of all involved, and structured around clearly defined business objectives and success metrics. Although lawyers tend to be excellent negotiators, managers should use lawyers to assist with partnering deals only if they are willing to invest in negotiating for the long term success of each deal, not just getting the deal structured and closed.

Closing Thoughts

Recycling and reuse have long been seen as "good things". Repurposing is simply one more form of reuse – but one that creates significant potential for big enhancements to revenues and bottom line results. Still, given the inevitable risks, repurposing is not for everyone. Startups, companies that are not strongly focused on their core competencies, and firms that do not have assets that may be considered sufficiently "advanced" for other markets should not consider repurposing.

On the other hand, companies that have invested heavily in the creation of technologies or technology-based products or services, and whose offerings are seen as advanced in at least one other market or industry vertical, should consider repurposing. And established firms that have large technology portfolios should make investigations into possible repurposing opportunities a regular part of their strategic planning activities.

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About The Gendreau Group (TGG):

As revenue strategists, the principals and associates of The Gendreau Group provide hands-on guidance and support to companies seeking to grow and protect revenues, improve results and increase valuation. TGG helps clients find untapped revenues by repurposing existing products or technologies; maximize revenues by developing channel strategies and relationships; and increase valuation by augmenting corporate development initiatives and exit strategies development. TGG's focus on revenues and its track record distinguish it from traditional marketing and business consulting firms. TGG works with startups, growth companies, and mature organizations and has provided services to companies in the United States and Europe since 1989.

TGG clients have included the following:

AirTouch (Verizon Wireless), AT&T, Apunix Computer Services, Bell Atlantic (Verizon), Alcatel/Lucent, Bechtel, CMS Energy Corporation, CoCo Communications, CompuCredit, Credit Logistics, Education Systems Exchange (now Education Systems, Inc.), Mindport (now Entriq), First Virtual Holdings/Message Media (now DoubleClick), Idego Methodologies, Incepta Ventures LLC, Intuit-Quicken Division, Iridium North America, JD Events, KioskCom.com, Intertune Internet Solutions, Orange, VisionTree, Luxor Technologies, Multiple Zones International (now The Zones), NetWorld Alliance, Nextel, Onyx Technologies (acquired by HNC, now Fair Isaac, Inc.), Hubbs-SeaWorld, H&R Block, Edgeware Analytics, PCS PrimeCo, Primal Solutions, Ryzex, Ameritech (now AT&T), Pacific Bell (now AT&T), Self-ServiceWorld.com, Southwestern Bell Mobile, Sprint PCS, Star-21 Networks GmbH (Germany and Czech Republic: a investment of Bechtel, GE Capital, and Nortel), The Credit Policy Group, US WEST Communications (now Qwest), TuffRax, Verizon Wireless, VerRx, and Versatile Systems.

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