

**DARPA Tech, DARPA's 25th Systems and Technology Symposium
August 7, 2007
Anaheim, California
Teleprompter Script for Dr. Robert Leheny, Deputy Director,
DARPA**

Doing Business with DARPA

Good afternoon,

For the next few minutes we're going to talk about "Doing Business with DARPA"-

DARPA, the agency whose business is not about any specific mission,
but about executing a collection of distinct projects,
each having its own mission,
each aimed at enabling some new capability for the warfighter.

As Dr. Tether described this morning, over the past fifty years DARPA has evolved a unique business model, a unique way of doing business,
but to understand DARPA's Business Model, requires only that you appreciate that at it's core each of these projects is about an idea,
and, how DARPA's way of doing business is a process for transforming

these ideas into new capabilities for our warfighters.

This afternoon we want to expand on this theme and talk about four aspects of Doing Business with DARPA, first of course, is how DARPA transforms ideas into programs,

Second, is how we go about establishing contracts having goals, milestones and commitments to specific deliverables,

Then how we work to maximize DARPA's impact on warfighters by engaging as early as possible with end-users, the potential customers, to gain their buy-in to what we are trying to accomplish,

And, as a business that prizes innovation,

We'll finish with how we recruit the talent to make it happen.

In short, we're going to be talking about what DARPA, as an engine of innovation, is all about.

I'm going to start by expanding on Dr. Tether's comments, and take you through DARPA's process for transforming ideas into programs,

Then Mark Bennington, Director of DARPA's Contracts Office, will walk you through "Contracting With DARPA".

Mark will be followed by Chris Earl, Special Assistant for Technology Transition,

who will discuss how we transition DARPA programs to warfighters.

And to wrap up, Mary Vander Linden, Director for Human Resources will address how DARPA recruits Program Managers,

How we recruit the people who create and manage DARPA programs.

But if you take away nothing else from this session

remember, at our core,

the business of DARPA is about innovative Ideas!

And at DARPA, we recognize that innovative ideas are not the exclusive domain of any organization or state,

DARPA is open to all sources, most typically from the US for sure,

but we also engage with foreign sources, including foreign defense S&T organizations,

So how does the process work?

Often it begins with you, a potential contractor, articulating your idea, your vision, in a conversation with a DARPA Program Manager,

who, caught up with your enthusiasm, might help you flesh this idea out by finding funds to support you in what we call a seedling effort,

just to see where it might lead

More typically, he may try incorporating what you want to accomplish into either his existing program portfolio,

or,

incorporate your thinking with his own nascent ideas to create a broader plan,

one that might capture the imagination of a whole community,

one that might result in a new DARPA program.

So the keystone in DARPA's Business Model is our Program Managers.

Reiterating Dr. Tether's observations,

DARPA PM's don't WORK at the Agency, they ARE the Agency,

they create and drive the Agency's agenda.

And, if you want to engage with DARPA and can only know one person at DARPA, that person should be Program Manager.

So what makes a DARPA PM unique?

First and foremost, they're subject matter experts,

either already a leader in their technical community,

or prepared to become a leader,

as they take on the challenge of creating and managing DARPA programs.

They're driven with the zeal of a venture capitalist,

convinced that their program will create a major technological advance

they're ready and willing to take risks.

Not a VC's financial risk,

but more precisely, a professional risk,

the risk of trying to transform a far-side scientific or engineering insight,

into demonstrable warfighter capability

And with no guarantees of success.

They're constantly on the look out for the next big idea,

the kind of idea that enabled DARPA to be the first to create a rocket powerful enough to launch the US Space program,

the first to define protocols enabling computers to communicate that spawned the internet,

the first to make an aircraft invisible that transformed the projection of air power forever.

The kind of ideas that established DARPA's reputation.

And today's PMs are championing the ideas that will yield Dr. Tether's Future Icons;

an unmanned aircraft that can loiter for months or years,

a microchip timekeeper having atomic clock precision,

a fully functional prosthetic limb directly controlled by the brain.

And looking to the future,

the PM's briefing you at this meeting largely represent the next generation of PM's,

PM's driven to be the first to deliver on the promise of the dreams they are presenting.

And when they leave DARPA, PM's find their experience has transformed them,

from performer on a DARPA contract to creator of DARPA programs,

experienced in the art of turning dreams into action-plans, plans that deliver concrete results.

But realizing dreams takes a community of researchers,

researchers with credible ideas

and a process for engaging this community!

This process is DARPA's unique way of doing business.

Typically it begins with our PM requesting funds from his Office Director to flesh out the details.

Funds to support workshops to quantify the challenges to be overcome,

and to identify possible approaches for overcoming them

funds to provide credibility to the underlying science or engineering design space.

a modest investment to transform an intuition about what might be possible, to quantify a notion that "smaller is better",

Into something like "smaller by so many nanometers will yield a hundred times better performance."

So armed with this information, our PM is ready to present what we call

a New Start brief to the Director.

In a dialogue, that begins with a clear statement of the programs' objective

and discussion of who will benefit and why it matters.

A discussion that begs the obvious questions-

if it's really such a great idea, with so much to benefit, why does DARPA have to invest?

Why doesn't the ultimate customer just issue an RFP, spelling out exactly what is desired?

Questions answered by laying out the "DARPA Hard" technical challenges to be overcome.

Beginning with identifying the most critical challenges, the ones which if they're not overcome the entire effort may fail,

the ones that if we can't get them right, we have to ask, does it make any sense to go on?

Where "getting it right" isn't necessarily where we need to be at the end of the program,

just "right" enough so we can move on with confidence to the next challenge.

Not surprisingly, these challenges take on a special significance,

So with further discussion, a detailed plan emerges, a plan for meeting these key challenges which become the programs Go/NoGo milestones,

each with its own metrics for success,

Metrics which will guide the program,

Metrics which if they aren't being met, will force a reassessment of what it is we're trying to accomplish.

At this point in the discussion all that remains to determine is an estimated time to complete,

and a rough order-of-magnitude of what it might cost.

So the process reduces to,

if the Director accepts the importance of what's to be accomplished,

if he's convinced that the program will get us to that goal,

convinced that the anticipated schedule and costs are reasonable,

and most importantly,

convinced we've identified the right Go/No-Go milestones.

Then our PM leaves the meeting with an approved program,
with permission to publish a Broad Agency Announcement, or BAA.

And I can tell you from personal experience,

there's no greater sense of accomplishment than walking out of
DARPA with approval for a BAA in your pocket.

For those unfamiliar with the term, a BAA is essentially a statement of
what we want to accomplish,

what we believe are the challenges to be overcome,

a statement identifying the critical milestones,

and asking not for bids on a single, predetermined approach,

but rather asking for as many ideas for how to achieve the program
goals as the community might imagine.

When these proposals come in,

working with a panel of reviewers, our PM

assesses them for how well they satisfy the program goals.

And from the spectrum of ideas received, the committee selects and
prioritizes those that best meet our objectives.

Armed with this assessment,

our PM meets again with the Director,

Now in a Source Selection brief, where the discussion is not of what might be possible,

but rather, what is actually being promised.

With actual work plans and timelines for achieving specific milestones.

And since the Director has already bought into the programs objectives,

the tension in this discussion is between our PM's desire to mitigate risk with as comprehensive a program as possible,

exploring many alternative approaches,

and the Directors desire to ensure the funded efforts will really accomplish our objectives

with an investment no more than is necessary to meet the agency's goal.

In short that's how ideas get transformed into DARPA programs.

Getting a seedling started may be a matter of weeks,

but from New Start Brief to completion of Source Selection can take anywhere from three to six months, or longer, depending on the complexity of the program.

The next critical point comes months later, when the first Go/No-Go milestone comes due

But I've gotten ahead of the story,

because before we reach this point, the performers, the idea generators, have to be put under contract.

So at this time I'll turn the podium over to Mark Bennington, who will walk you through that process,

Mark